

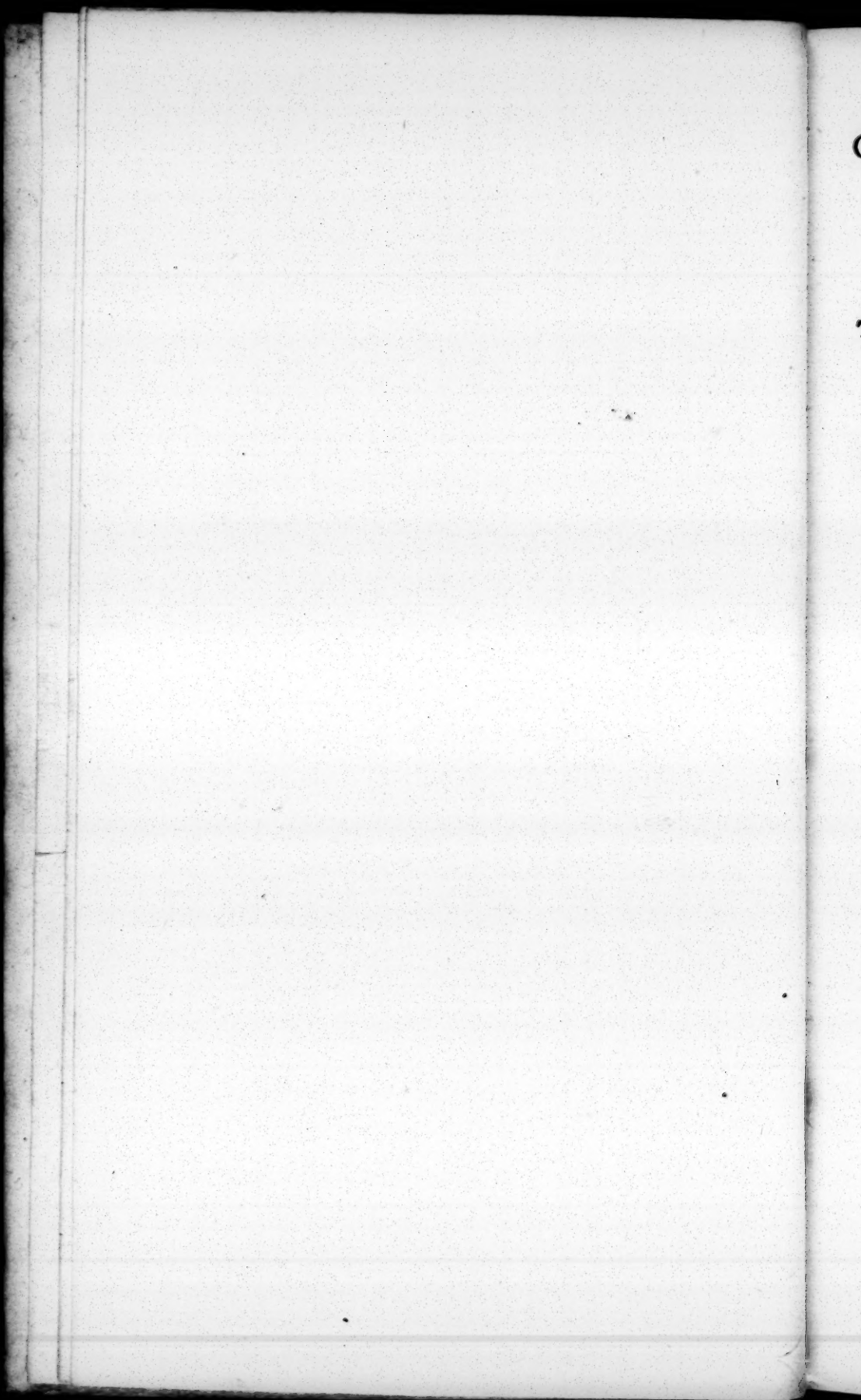
THE
GARDENER'S POCKET DICTIONARY;
IN THREE VOLUMES.

VOL. II. III.

THIRD DIVISION;

CONTAINING

GREEN-HOUSE PLANTS,
HOT-HOUSE PLANTS,
INDEX OF ENGLISH NAMES.



THE
GARDENER'S POCKET DICTIONARY;
OR,
A SYSTEMATIC ARRANGEMENT
OF
TREES, SHRUBS, HERBS, FLOWERS, AND FRUITS;
AGREEABLE TO THE LINNÆAN METHOD:
WITH
THEIR LATIN AND ENGLISH NAMES,
THEIR
USES, PROPAGATION, AND CULTURE,
IN
GARDENS, PLANTATIONS, GREEN-HOUSES, AND HOT-HOUSES,

Alphabetically divided under the following Heads, viz.

HARDY TREES AND SHRUBS,
HARDY HERBACEOUS PLANTS,
GREEN-HOUSE PLANTS,
HOT-HOUSE PLANTS.

The Whole comprehending Directions for the General
PRACTICE of GARDENING;

And forming a Daily Remembrancer to Gardeners, Nurserymen,
Florists, Seedsmen and all Lovers of GARDENING.

BY JOHN ABERCROMBIE,
Author of MAWE'S GARDENER'S KALENDAR, and other Works.

V O L. III.

L O N D O N :
PRINTED FOR LOCKYER DAVIS IN HOLBORN,
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T H E

Gardener's Pocket Dictionary.

T H I R D D I V I S I O N .

GREEN-HOUSE PLANTS.

THIS Division comprises an extensive and curious collection of exotics, consisting of *Herbaceous Perennials*, *Shrubs*, and *Trees*, natives of warm climates, which will live in this country in the open air in summer, but are too tender to endure the rigours of winter, without the shelter of a green-house; so consequently require to be kept constantly in pots, placed in the green-house from October to May or June, and then removed into the open air, for the summer.

A.

ACHILLEA, MILFOIL, or *Yarrow*. Of the class and order *Syngenesia Polygamia superflua*.

It affords one herbaceous fibrous-rooted hoary ever-green perennial of bushy growth, adorned with pinnated hoary leaves, and umbels of yellow compound flowers, having an oval general cup, containing many tubular and flat florets, five stamina, one style, and small oval seeds. One species, *viz.*

ACHILLEA Ægyptiaca. *Ægyptian Milfoil*. (*Pinnated leaves, with obtuse spear-shaped sawed lobes.*)

Vol. II.

B

Plant



Plant it in pots of good earth, and place it among the green-house exotics; it will flower great part of summer and winter, and may be propagated by slips or cuttings of the shoots in spring and summer, and by dividing the roots.

AGAVE, AMERICAN ALOE, or *Agave*. Of the class and order *Hexandria monogynia*.

They are superb succulent ever-green perennials without a stem, consisting of a vast erect cluster of strong oblong thick fleshy durable leaves, rising immediately from the crown of the root, embracing one another at the base, the central ones also closely enfolded from the bottom to top, the whole arriving to several feet in length in the process of many years growth, having the edges defended with crooked spines, and diminishing gradually upward, terminate in a strong thorny point; and in the centre of the leaves, after obtaining from sixty or eighty, to an hundred years growth, is produced an enormous flower-stalk, growing twenty feet high or more in a few months, adorned with a vast pyramid and cluster of liliaceous yellow flowers; having no cups, but a large funnel shaped six-lobed corolla, six stamina, an oblong germen under the corolla, supporting a single style, succeeded by a large triangular capsule, pregnant with compressed seeds; and when past flowering, is followed by the total dissolution of the whole vegetable, flower-stalk, leaves, and root.

The species are,

1. AGAVE *Americana*. Great American Aloe, or *Agave*. (*Broad dentated-spinous leaves, and a branching flower-stalk, producing a vast pyramid of flowers.*)

Varieties.

Common green American Aloe.

Gold striped leaved.

Silver striped-leaved.

2. AGAVE *Virginica*. Virginian Aloe. (*Narrower, dentated-spinous leaves, and a simple or unbranching flower-stalk, producing a great cluster of flowers at top.*)

These singular and august plants, natives of America, are preserved here in our green-house collections as great curiosities, being retained in large pots and tubs, for moving in and out of the green-house; are slow growers, generally near, or quite an hundred years in this country

before

GREEN-HOUSE PLANTS.

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before they arrive to a flowering state; when, and not before, they gradually expand their center leaves, making way for the flower-stem, which then pushes forth with great swiftness of growth. Many of them have flowered in England within these few years.

Let these plants be potted in light sandy, or dry rubbish compost, as being of a succulent nature: small pots at first, shifting them gradually into larger, and into tubs when very large, giving but very moderate waterings in winter, and more freely in summer.

As to the prevailing notion that these plants do not flower but once in an hundred years, they, on account of their very slow growth in this country, are frequently a century before they arrive to a flowering state.

They are propagated freely by off-set suckers, produced from the bottom; detaching them for planting in the spring, summer, and autumn, when they are a few inches long, and plant them singly in small pots of light compost, give a little water, and they will readily emit roots, and grow: observing in a year or two when advanced in growth, to shift them into larger pots.

ALBUCA, BASTARD STAR OF BETHLEHEM. (*Hexandria monogynia.*)

They are bulbous-rooted flowery perennials, producing long narrow spear, and awl-shaped leaves, erect flower-stalks, ten or twelve inches high, or more, terminating in a loose spike, and corymbus of yellowish flowers, with six oblong oval petals, six stamina, and one style; succeeded by three-cornered capsules, with small plane seeds.

The species are,

1. **ALBUCA major.** Greater Bastard Star of Bethlehem. (*Spear-shaped leaves.*)

2. **ALBUCA minor,** Lesser Bastard Star of Bethlehem. (*Awl-shaped leaves.*)

Plant the bulbs or roots in pots of light earth, and placed in a green-house or frame in winter; they will flower towards autumn, and may be propagated by off-sets of the root.

ALETRIS, ALETRIS. (*Hexandria monogynia.*)

It consists of a tuberous fleshy rooted American perennial, having spear-shaped leaves, and an upright flower-stalk, sustaining a spike of whitish flowers, with six petals, six stamina, and one style, succeeded by a trigonous capsule, with angular seeds.

The species is,

ALETRIS farinosa. Farinofous Virginia *Aletris*, (without stalk, spear-shaped membranous leaves, and alternate flowers.)

Plant the roots in pots of light earth for moving, to shelter in winter, and may propagate it by off-sets of the root.

ALOE, AFRICAN ALOE. (*Hexandria monogynia*.)

This genus affords a grand collection of very curious succulent ever-green perennials, exotics of Africa; growing with clustered heads of thick fleshy leaves, of many various shapes, sizes, substances, and directions of growth; some being elevated on an upright robust shrubby-like succulent stem: others, without stalk, grow close to the ground, immediately on the crown of the root; and amidst the head of leaves, upright flower-stalks, from one or two, to three feet high or more, adorned with long tubular drooping flowers, having no cup, a narrow monopetalous corolla, tubulous below, and six-parted, and spreading at the brim; six stamina, an ovary within the corolla, supporting one style, and succeeds to an oblong trilocular capsule, containing angular seeds.

The plants of this genus exhibit a considerable variety of different singular growths, some growing with erect robust stems, from one, two, or three, to four, five, or ten feet high, crowned by a vast head of large thick leaves, others having no stalk at all, rise only with a cluster of dwarf leaves, from about two or three, to four, five or six inches, or a foot high; some with the leaves erect, others spread out every way; some in a fanned manner, and others arranged in two, three, and five different directions, and some explicate flat on the earth.

The chief species are,

1. *ALOE perfoliata*. Perfoliate leaved Tree Aloe. (Upright stalk, embraced by, and elevate a large cluster of dentated leaves, and corymbose spikes of cylindric, nodding flowers.)

Varieties.

2. *ALOE (Mitriformis)*. Mitre-shaped spinous Aloe (Erect stem, with broad spinous leaves, converging together.)

3. *ALOE (Arborescens)*. Tree, or Sword-leaved Aloe (Tall erect stem, embraced with long narrow glaucous leaves.)

4. *ALOE*

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4. ALOE (*ferox.*) *Aloe ferox*, or Great prickly Aloe. (Tall erect stem, and broad dark-green leaves, defended with spines on every side.)

5. ALOE (*glauca.*) Glauous or greyish-green-leaved Aloe. (Short stalk, with short grey leaves, somewhat prickly.)

Broad glauous-leaved Aloe, prickly on every side.

Small glauous-leaved Aloe.

Great glauous-leaved Aloe.

Glauous-leaved Aloe (with the back of the leaves spinous.)

Perfoliate, none-spinous glauous-leaved Aloe.

Prickly glauous-leaved Aloe (with red flowers.)

6. ALOE (*maculatis spinosa.*) White spotted prickly-leaved Aloe. (Erect stalk, and spinose leaves, spotted with white.)

7 ALOE (*maculata major.*) Major, or greater spotted prickly Aloe.

8. ALOE (*maculata minor.*) Lesser spotted prickly Aloe.

9. ALOE (*succotrina.*) Succotrine Aloe. (Tall stems, supporting long narrow spinous leaves, collected in beads, and purple flowers.)

10. ALOE (*vera.*) Common hepatic Aloe of Barbadoes. (Clustered spinous dentated vaginant, plane leaves; spotted with white.)

11. ALOE (*humilis.*) Hedge-hog Aloe. (Erect awl-shaped, radical leaves closely armed on all sides with soft spines.)

12. ALOE *variegata.* Variegated, or Partridge-breast Aloe. (Erect, triangular, variegated green and white radical leaves, imbricated and standing three ways, and clusters of nodding red flowers.)

Narrow leaved.

Broad leaved.

13. ALOE *spiralis.* Spiral upright Aloe. (Erect, ovalish, sharp-pointed, imbricated leaves, and oval, crenated, close fitting flowers, with the interior segments connivent.)

Varieties.

Round spiral Aloe. Leaves placed circularly.

Pentangular spiral Aloe. Leaves standing five ways.

Triangular spiral Aloe. Leaves standing three ways.

14. ALOE *viscosa.* Viscous, upright, triangular Aloe. (Upright, triangular, imbricated viscous leaves, standing triangularly, and funnel-shaped, two-lipped, five-parted revolute flowers.)

B 3

15. ALOE

15. *ALOE disticha*. Distichous Aloe, commonly called Soap Aloe. (*Erect short stalk, broad-tongue-shaped, amplexicaule, spinous, dark green leaves, spotted like soft soap, and umbellate, pendulous-foot stalked, oval-cylindric, curved red flowers.*)

Varieties.

Distichous-leaved, or leaves spreading two ways.

Horizontal-leaved, or leaves spreading every way.

Verrucosa. Warted, triangular leaved.

Carinata. Keel-shaped, warted, conjugate-leaved, and coral-coloured stalk and flowers.

Linguiformis. Tongue-shaped, warted leaved Aloe.

Plicatilis. Plaited, or Fan-Aloe. (*Tall upright stem, elevating heads of long, flat, pliant, spinous leaves, ranged two ways, and red flowers.*)

16. *ALOE retusa*. Retuse leaved, or Cushion-Aloe. (*Very short, thick, swelling retuse leaves, compressed at top, like a cushion, and close sitting, three-sided, two-lipped flowers, with the under lip recurved.*)

17. *ALOE pumila*. Dwarf Aloe. (*Dwarf ovalish leaves; and two-lipped sessile flowers, having the upper lip erect, the under one recurved.*)

18. *ALOE margaritifera*. Pearl Aloe. (*Dwarf, thick, short, oval-awl-shaped, triangular-pointed leaves, covered with pearly tubercles.*)

Varieties.

Larger Pearl Aloe.

Lesser Pearl Aloe.

Least Pearl Aloe.

19. *ALOE Arachnoides*, (*Arachnoides*). Cobweb Aloe. (*Dwarf, short, oval-spear shaped, fleshy, plane leaves, three-sided at top, spread close to the ground, and covered with numerous soft hair-like white spines.*)

All these are tender succulent plants, mostly of Africa, perennial in root, stalk and leaves, of many years duration, and most of them produce flowers annually; sending up erect flower-stalks in summer, from one or two, to three feet high, or more, generally arriving to flowering towards autumn, of a purple, red, and yellow colour in the different species; mostly very elegant and ornamental.

Keep all the sorts in pots of light sandy earth, or any dry rubbishy soil, as being the most eligible for succulent plants, placing them singly in small pots at first, and placed

GREEN-HOUSE PLANTS.

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placed in the green-house from October till May or June, near the front next the windows, in the dry, and full sun, especially the dwarf sorts; giving but very moderate waterings in winter, and in summer, in June, removed in the open air in a warm place, and defended from incessant rains.

According as they encrease in growth, shift them into larger pots.

They are propagated by off-sets or suckers, emitted plenteously in most of the sorts; or in default thereof, may plant cuttings of the leaves; performing either method in spring or summer; slipping the off-sets and suckers from the mother plants with the thumb, and lay them in the green-house, &c. a few days, to dry the moist part at bottom, then plant them in small pots of light compost, and give water: cuttings of the leaves laid to dry, and heal over the cut part, then planted in pots, and plunged in a bark-bed, or any hot-bed, will take root, and form proper plants.

AMARYLLIS, LILY DAFFODIL. (*Hexandria monogynia.*)

It furnishes some bulbous-rooted, very ornamental flowery perennials, rising with long narrow leaves, and upright slender flower-stalks, from six or eight inches, to a foot, or half a yard high; terminated by a spatha or scabbard, protruding one or more large beautiful liliaceous flowers, with six oblong petals, six stamina, and one style, succeeded by an oval, trilocular capsule, and round seeds.

The green-house kinds are,

AMARYLLIS *Atamasca* (*Atamasca*) or Virginia Lily-Daffodil. (*One flower in a sheath, with equal petals and declined style.*) Pale red, flowers early in summer, or in autumn.

AMARYLLIS *Sarniensis*. Guernsey Lily, or Japanese *Amaryllis*. (*Many flowers from a sheath, with revolute corolla, and erect stamina and style.*) Bright red flowers, in September or October.

They have large bulbous roots, which should be planted in largish pots of light rich earth, and may be procured in June, July, or August, when the leaves are decayed, and kept in the green-house all winter.

They are propagated by off-sets of the root, when the leaves decay.

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AMBROSIA, AMBROSIA. (*Monoclea pentandria*.)

It is a shrubby exotic of eight or ten feet growth, with pinnatifid hairy leaves, and the branches terminated by single spikes of male and female small funnel-shaped florets, with five stamina, one style, and a leafy one-seeded capsule.—The species is,

AMBROSIA *arborescens*. Tree Ambrosia of Peru.

Keep it in pots of rich earth, and placed among the green-house plants, and may propagate it by cuttings of the shoots in spring and summer; and by seed.

AMELLUS, CAPE STAR FLOWER. (*Syngenesia polygamia superflua*.)

This comprehends an undershrubby perennial, growing two or three feet high, garnished with spear-shaped opposite leaves; and terminated by one compound radiated violet and yellow flower, having a scaly general cup, tubulous florets in the disk, and flat ones in the radius, five stamina, and one style.—The species is,

AMELLUS *lychnitis*. Common Cape Star Flower.

Propagate it by cuttings in spring and summer, and keep it always in pots among the green-house plants.

ANAGALLIS, PIMPERNEL. (*Pentandria monogynia*.)

It is a bushy perennial, a foot high, with spear-shaped leaves, and many ornamental wheel-shaped blue flowers, having a five-parted cup and corolla, five stamina, and one style.—One species, viz.

ANAGALLIS *monelli*. Blue perennial Pimpernel. (*Erect bushy stalks, and undivided leaves*.)

Propagate it by cuttings in summer, or by seed in March or April, and keep it always in pots, for moving into the green-house in winter.

ANAGYRIS, STINKING BEAN TREFOIL. (*Decandria monogynia*.)

It is an ornamental flowering shrub, growing six or eight feet high; with oval oblong hoary leaves, and many long pendulous spikes of pupilionaceous yellow flowers, ten stamina, and simple style, succeeded by an oblong pod, and kidney shaped seeds.—The species, viz.

ANAGYRIS *fetida*. Common stinking Anagyrus. (*Flowers in May and June*.)

Plant it in pots of good earth, and propagate it by seed sowed in March, and by layers of the young shoots; also cuttings, assisted by a hot-bed.

ANTHE-

ANTHEMIS, CHAMOMILE. (*Syngenesia polygamia su-*

perflua.) Consists of a low bushy perennial, with pinnated dentated fleshy leaves, and compound radiated white flowers, tubular in the disk, and flat florets in the radius; five stamina, and one style.—One species, viz.

ANTHEMIS *maritima*. Sea Chamomile.

This plant flowers profusely from July till November; merits a place in the green-house collection, and is propagated by seed, and by slips and cuttings of the shoots in spring and summer.

ANTHERICUM, SPIDERWORT. (*Hexandria monogynia*.)

It furnishes shrubby and herbaceous, aloaceous evergreens, with taper, fleshy, succulent leaves, and spikes of yellow liliaceous flowers, without cups, six obtuse spreading petals, six stamina, and one style, succeeded by a trilocular capsule, with many seeds.

The species are,

ANTHERICUM *frutescens*. Shrubby Anthericum. (*Shrubby stalk, and taper fleshy leaves*.)

ANTHERICUM *aloides*. Aloe-leaved Spiderwort. (*Plane awl shaped fleshy leaves*.)

ANTHERICUM *Aphodeloides*, (*Aphodeloides*.) Aphodel-leaved Anthericum. (*Awl-shaped, nearly taper, fleshy leaves, gathered close together*.)

They are exotics of Africa, the first of which rise upright a foot or two high; the others are without stalk, setting close to the earth; flowering in spring, summer, and autumn; and may be propagated by off-set young plants in spring and summer, planted in pots of light dry earth; also by seeds sowed in the spring, in a hot-bed, or warm border.

ANTHOLYZA (*Antholyza*) or ÆTHIOPIAN CORN-FLAG. (*Triandria monogynia*.)

They are herbaceous, bulbous-rooted, elegant flowery perennials, rising with long narrow leaves, and upright annual flower stalks, one or two feet high, adorned with large, ringent or grinning flowers, having spathaceous cups, a monopetalous irregular corolla, tubular below, widening above, with a large compressed gaping mouth, three stamina, and slender style, succeeded by a trigonous, trilocular, many-seeded capsule.

The species are,

ANTHOLYZA *ringens*, Ringent Scarlet *Antholyza*. (Scarlet flowers, with compressed jaws, and gaping lips.)

ANTHOLYZA *Meriana*, (*Meriana*.) Cape *Antholyza*. (Reddish, funnel-shaped, almost equal flowers.)

ANTHOLYZA *Cunonia*, (*Cunonia*.) or Persian Scarlet *Antholyza*. (Erect corolla, with five-parted lips, having the upper segments broad and extended.)

They produce singular beautiful flowers in April, May, or June, and highly merit a place in the greenhouse collections.

The roots, being bulbous, may be procured in summer, when the leaves are decayed, and planted in pots of rich earth; and may be propagated by off-set young bulbs, from the main roots.

ANTHOSPERMUM. AMBER TREE. (*Of the class and order Polygamia dioecia.*)

It is a shrubby odoriferous ever-green, of bushy growth, very closely garnished with minute smooth fragrant leaves, and small male, female, and hermaphrodite flowers, without petals, but a four-parted cup, four stamina, and two styles, succeeded by a roundish capsule, and angular seeds. — One species, viz.

ANTHOSPERMUM *Æthiopicum*. Æthiopian Amber-Tree. (*Smooth leaves.*)

This pretty ever-green claims admittance in all curious collections. Keep it in pots of rich earth, and may propagate it by layers and cuttings of the young shoots in spring and summer.

ANTHYLLIS. SILVER BUSH, or Jupiter's Beard. (*Diadelphia decandria.*)

Consists of ornamental ever-green shrubs, of large and dwarfish growth, with bushy heads, adorned with winged and trifoliate hoary silvery leaves, and papilionaceous yellow flowers, having swelling five-parted cups, five irregular petals, ten diadelphous stamina and single style, succeeded by roundish pods, with one or two seeds.

The species are,

1. ANTHYLLIS *Barba Jovis*, (*Barba Jovis*.) Jupiter's Beard, or Silver Bush. (*Equal pinnated leaves, and heads of flowers terminating the branches.*)

2. ANTHYLLIS *heterophylla*. Dwarf, variable leaved Portugal Silver Bush. (*Pinnated leaves, and ternate flowers.*)

ANTHYLLIS

3. *ANTHYLLIS Cytisoides*, (*Cytisoides*.) Dwarf, ternate-leaved Spanish Silver Bush. (*Ternate unequal leaves*.)

These shrubs, exhibit a singular appearance in their hoary white silvery leaves, are natives of Italia, Portugal, and Spain; the first of which grows eight or ten feet high, the other not above two or three feet; and they all flower ornamentally in June and July.

They are propagated by seeds in the spring, and by cuttings and layers of the young shoots in spring and summer.

ANTIRRHINUM. SNAP-DRAGON, and TOAD FLAX. (*Didynamia angiospermia*.)

Comprises a low succulent perennial, with declinated stalks a foot long, garnished with spear-shaped succulent leaves, and bunches of yellow and dark-purple tubular gaping flowers, terminated in a sharp nectarium behind; four stamina, a single style, and roundish seed capsules.

One species, viz.

ANTIRRHINUM triste. Dark-flowered Gibraltar Toad-Flax. (*Spear-shaped, sparsed leaves, the lower ones opposite, and close-fitting flowers, with dark-purple chaps*.)

Variegated-leaved

They effect a singular variety in their striped flowers, and are easily propagated by cuttings of the shoots in summer.

ARCTOTIS, Arctotis. (*Syngenesia polygamia necessaria*.)

They are undershrubby and herbaceous perennials of Africa; mostly of upright growth, with branchy stalks, three, four, or five feet high, and one is without stalk; garnished with pinnatifid, oblong spear, and lyre-shaped leaves, and large compound radiated golden yellow flowers, having round imbricated cups, containing many funnel-shaped florets in the disk, and flat ones in the circumference, five stamina, and one style, and single seeds.

The species are,

1. *ARCTOTIS aspera*. Rough leaved golden Arctotis. (*Pinnated, finned hairy rough leaves*.)

2. *ARCTOTIS aurantia*. Orange coloured flowered.

3. *ARCTOTIS plantaginea*. Plantain-leaved Arctotis. (*Spear-shaped oval, nerveose leaves, embracing the stalk*.)

ARCTOTIS superba. Superb Arctotis. (*Pinnated dentated leaves; the denticles biparted*.)

4. *ARCTOTIS angustifolia*. Narrow-leaved Arctotis. (*Spear-shaped indented leaves, the denticles entire.*)

5. *ARCTOTIS acaulis*. Stalkless Cape Arctotis. (*Lyre-shaped leaves, and the flower peduncles growing from the root.*)

All these plants effect a distinguishable variety, the first four sorts rise with branchy stalks, the other sits close to the ground: all of which flower very ornamentally in summer, autumn, and winter; and may be propagated, the shrubby kinds by cuttings of the young shoots in spring and summer, the Acaulous sort by seed and parting the roots.

ARISTOLOCHIA BIRTHWORT. (*Gynandria hexandria.*)

It comprises undershrubby and herbaceous perennials, some having volubilate high climbing stems; others with infirm flexible trailing stalks, garnished with oblong and heart-shaped simple leaves, and hollow red and purple flowers, having no cup, a monopetalous irregular corolla, tubulous below, and spreading above, with the lower part extended, no stamina, but six gynandrious anthera and a triangular germen with a six-parted stigma, succeeded by oblong seed capsules.

The species are,

1. *ARISTOLOCHIA maxima*, Great climbing Carthage Birthwort. (*Volubilate high climbing stalks, oblong acuminate leaves, and foot-stalks with many flowers.*)

2. *ARISTOLOCHIA semper-virens*. Evergreen Cretan Birthwort (*Infirm trailing stalks, oblong heart-shaped waved leaves, and footstalks with one flower.*)

3. *ARISTOLOCHIA Serpentaria* (*Serpentaria*) Serpent-root Birthwort, or Virginia Snake-root. (*Infirm taper flexuose stalks, oblong heart-shaped, plane leaves, and solitary flowers.*) The root cures the bite of the American rattlesnake, and other venomous reptiles.

4. *ARISTOLOCHIA Pifstlochbia* (*Pifstlochbia*) or Crenated leaved Spanish Birthwort. (*Infirm branching trailing stalks, heart-shaped, crenated, footstalked leaves, netted underneath.*)

They have all slender stalks, which in the first climb round any adjacent support many feet high; the others incline towards the ground, and extend only a moderate length;

length; all of which produce their flower at the sides of the branches in June and July.

Keep them always in pots of rich earth, for moving among the green-house exotics; and may be propagated by seed in a hot bed, or warm border in the Spring, also by cuttings of the shoots and slipping the roots.

ARTEMESIA, [MUGWORT.] *Worm-wood, &c. (Syngenesia polygamia superflua).*

It furnishes an upright shrubby ever-green, of four or five feet growth, ornamented with multifid hoary leaves, and the branches terminated by heads of yellowish compound flowers. See the *Hardy Herbaceous Plants*.

ARTEMESIA *Arborescens*. Tree Wormwood. (*Shrubby stalk, compound, multifid or finely-divided leaves, and globose flowers.*)

Keep it in pots of light earth, it will effect a conspicuous variety in the green-house collection; and is easily propagated by cuttings of the young shoots in spring and summer.

ASCLEPIAS SWALLOW-WORT. (*Pentandria digynia.*)

Comprises a shrubby ornamental flowering ever-green, six or seven feet high, adorned with spear-shaped leaves, and umbellate bunches of fine white flowers, divided into five oval segments, enclosing five horned nectaria, five stamens, and two styles.—One species, viz.

ASCLEPIAS *Fruticosa*. Shrubby Æthiopian Swallow-wort. (*Shrubby upright stalks, and spear-shaped revolute leaves.*)

This elegant shrub claims admittance in every green-house collection; and is propagated by cuttings of the young shoots in spring and summer in the shade, or forwarded in a hot-bed, as also by seed in March, &c. assisted by a hot bed.

ASCYRUM SAINT PETER'S WORT. (*Polyadelphia polyandria.*)

It is a diminutive undershrub, with oval leaves and spikes of small yellowish flowers, having four-leaved cups, four oval petals, numerous polyadelphious stamens and one style.—One species, viz.

ASCYRUM *Crux-Andree* (*Crux-Andree*) St. Andrew's Cross, or Virginian St. Peter's Wort. (*Taper stalks, oval leaves, and forked panicles.*)

Propagate

Propagate it by layers and cuttings of the young shoots, and keep it in pots, among the green-house tribe.

ASPALATHUS (*Aspalathus*) AFRICAN BROOM. (*Diadelphia decandria*.)

They are shrubby exotics, growing three, four, or five feet high, ornamented with small awl and wedge shaped and linear leaves, in bunches, and by three, five, or more together; and papilionaceous or butterfly shaped yellow and red flowers. with five-parted cups, four or five unequal petals, ten diadelphious stamina, an oval germen and single style, succeeding to oval pods, with kidney-shaped seeds.

The chief species in our gardens are,

1. **ASPALATHUS** *chenopoda*. Goose-foot Æthiopian *Aspalathus*, or Dwarf Larch. (*Awl-shaped sharp pointed hairy leaves in clusters, and yellow flowers in woolly heads.*)

2. **ASPALATHUS** *cretica*. Cretan three leaved *Aspalathus*. (*Wedge-shaped smooth leaves, three together, and flowers growing in clusters.*)

3. **ASPALATHUS** *argentea*. Silvery Æthiopian *Aspalathus*. (*Linear silky white leaves, by threes, and scattered hoary flowers.*)

4. **ASPALATHUS** *Indica*. Indian five-leaved *Aspalathus*. (*Close-fitting leaves, by fives, and peduncles with one purple downy flower.*)

5. **ASPALATHUS** *capitata*. Capitated Cape *Aspalathus*. (*Linear acute leaves in bundles, and flowers in capitated heads.*)

6. **ASPALATHUS** *thymifolia*. Thyme-leaved Æthiopian *Aspalathus* (*Awl-shaped bundled, short smooth leaves, and alternate flowers.*)

These shrubs demand culture in all curious green-house collections in which they will encrease the variety very agreeably; and are easily raised from seed sowed in pots in the Spring, and plunged in a moderate hot bed: and the young plants hardened to the air in summer, potted separately in small pots, and removed to the green house in October, and managed as other shrubby exotics of that department,

ASPARAGUS. (*Asparagus*) Shrubby Asparagus. (*Hexandria monogynia.*)

They are undershrubby, ever-green, and deciduous exotics of singular variety, growing mostly with irregular stalks and branches, from two or three to five or six feet high, in different species; some without and some armed with spines, and garnished with minute bristly awl-shaped and spear-shaped leaves, singly and in clusters; and small greenish flowers without cups, six spreading petals, six stamina, and a roundish trigonal germen, with one style succeeded by a globular trilocular berry, having five or six seeds.

The Species are,

1. *ASPARAGUS declinatus*. Declining branched African Asparagus. (*Spineless stalks, with declining branches and bristly leaves.*)
2. *ASPARAGUS retrofractus*. Retrofracted great larch leaved African Asparagus. (*Retrofracted crooked branches with single spines and long bristly leaves in bunches.*)
3. *ASPARAGUS sarmentosus*. Twiggy-stalked African Asparagus. (*Flexuose slender stalks, recurved spines, and linear spear-shaped leaves singly.*)
4. *Asparagus acutifolius*. Acute needle-leaved Portugal Asparagus. (*Shrubby stalk, without spines, stiff sharp needle-shaped leaves.*)
5. *ASPARAGUS alba*. White deciduous Portugal Asparagus. (*White flexuose branches retroflexed spines, and angular deciduous leaves in bunches.*)
6. *ASPARAGUS aphyllus*. Leafless Sicilian Asparagus. (*Awl-shaped unequal diverging spines, and no leaves.*)
7. *ASPARAGUS Asiaticus*. Asiatic upright Asparagus. (*Erect stalk, thread-shaped branches, single spines, and bristly leaves in bunches.*)

These plants exhibit a singular variety in the greenhouse collection, in which they should be kept in pots of good earth, and may be propagated by slipping the roots in the Spring, and may often detach them with off-set bottom stalks furnished with fibres, planting them singly in pots, likewise by seed sowed in pots in March, and forwarded in a hot-bed.

ASPHODELUS. *ASPHODEL*, or *King's Spear*. (*Of the class and order Hexandria monogynia.*)

It is an herbaceous perennial, with a fleshy clustered root, sending up awl-shaped fistular leaves, and annual stalks fifteen or eighteen inches high, terminated by ornamental

namental liliaceous, starry white flowers, without cups, monopetalous corolla cut into six spear-shaped spreading segments, six stamina, one style, and a globular trilocular capsule, with triangular seeds.—One species, viz.

ASPHODELUS *Fistulosus*. Fistular or hollow-leaved Minor White Asphodel. (*Naked stalk, awl-shaped, almost fistular striated leaves.*)

Plant the roots in pots in Autumn or Spring, and they will flower ornamentally in June and July: and may be propagated by slipping the roots in Autumn; and by seed in a hot-bed, or warm border of light earth in the Spring.

ASTER **STARWORT.** (*Syngenesia polygamia superflua.*)

It furnishes African flowering shrubs, growing a yard high, with narrow leaves, and compound radiated blue flowers, having a scaly general cup containing many funnel-shaped hermaphrodite florets in the centre, and flat female ones in the circumference; five stamina, one style, and a single downy seed to each floret.

The species are,

1. **ASTER** *Fruticosus*. Shrubby African Starwort. (*Linear punctured leaves in bundles, and peduncles sustaining one naked flower at the sides of the branches.*)

Varieties.

Common blue flowered.

White flowered.

Hypoph-leaved shrubby Aster.

2. **ASTER** *taxifolius*. Yew-leaved African shrubby Starwort. (*Awl-shaped, decurrent, rough edged leaves, and flowers terminating the stalks and branches.*)

3. **ASTER** *polifolius*. Mountain-Poly-leaved African Aster. (*Ob-oval serrated decurrent leaves, downy underneath, and close-fitting terminal flowers.*)

They have all shrubby durable stems: the first is the most noted in the English gardens, flowering annually, early in the spring; and are propagated by cuttings of the young shoots, assisted by a hot-bed in the spring, and early part of summer, or in pots in May and June, and placed in the shade.

ASTRAGALUS (**MILK VETCH.**) *Tragacantha*, or *Goat's Thorn.* (*Diadelphica decandria.*)

It is a low, hoary, flowering shrub, a foot or two high, having whitish spreading stalks, pinnated silvery leaves

termi-

terminated in a sharp thorn, and clusters of papilionaceous white flowers, with ten diadelphous stamina, a single style, and short swelling bilocular pods with kidney-shaped seeds.

One species, viz.

ASTRAGALUS *Tragacantha*. (*Tragacantha*) Common Tragacanth, or Goat's Thorn. (woody stalk, pinnated leaves with oval lobes and spinous footstalks.)

Varieties.

Oval lobed leaves.

Spear lobed leaves.

Downy leaved.

White flowered.

Purple flowered.

Red flowered.

Those shrubs exhibit a pretty variety among the greenhouse exotics, flower in June and July; and are propagated by cuttings and slips of the shoots, in pots plunged in a moderate hot-bed in spring and summer, or by layers; also by seed in a warm border in April.

ATHANASIA, GOLDY LOCKS. (*Syngenesia polygamia æqualis*.)

They are upright shrubby African exotics, growing three, four, or five feet high; furnished with linear oval trilobate trifid and spear-shaped leaves, and the branches terminated by corymbus bunches of compound yellow flowers, having an oval imbricated general cup, containing many funnel-shaped hermaphrodite florets, with five stamina, one style, and each floret having an oblong seed.

The principal noted species are,

1. ATHANASIA *dentata*. Dentated leaved Goldylocks. (Linear dentated lower leaves, with the upper ones oval and sawed, and a compound yellow corymbus.)

2. ATHANASIA *trifurcata*. Three pointed leaved Goldylocks. (Leaves cut into three lobes, and a simple yellow corymbus.)

3. ATHANASIA *crithmifolia*. Samphire-leaved Goldylocks. (Linear leaves, cut half-way into three narrow segments, and a single yellow corymbus.)

4. ATHANASIA *pubescens*. Hairy Goldylocks. (Spear-shaped entire, hairy leaves, and a single yellow corymbus.)

These



These plants make a pretty diversity in a collection and flower ornamentally in summer and autumn, and are easily increased by cuttings in April, May, and June, which if assisted by a hot-bed they will be rooted in a few weeks.

ATRAPHAXIS. (**ATRAPHAXIS**) (*Hexandria digynia*).

It affords upright and trailing shrubby exotics, with spinous and smooth branches, garnished with small spear-shaped and oval leaves, and clusters of white flowers with two-leaved coloured cups, two roundish petals, five stamens, a roundish compressed germen, with two styles succeeded by a roundish seed lodged in the calix, not ripening in England.

The species are,

1. **ATRAPHAXIS spinosa.** Thorny upright Median *Atraphaxis*. (*Upright stalks, slender thorny branches, and spear-shaped leaves.*)

2. **ATRAPHAXES undulata.** Waved leaved *Æthiopian Atraphaxes*. (*Trailing branches without thorns, and oval waved curled leaves.*)

They flower in June, July, and August; and may be propagated by cuttings in spring and summer, keeping them in pots, and managed as other exotic shrubs in the green-house.

B.

BACCHARIS, PLOUGHMAN'S SPIKENARD. Of the class and order *Syngenesia polygamia superflua*.

It furnishes two ornamental upright ever-green shrubs of America and Africa, growing five, six, or seven feet high, adorned with long spear-shaped leaves, and spikes of whitish compound flowers, having a cylindric scaly general cup, including many funnel-shaped five-parted florets, five stamens, one style, and each floret furnish a short seed crowned with down, flowers in July and August, and the seed sometimes ripens in England.

The species for the green-house are,

1. **BACCHARIS ivæfolia.** Jesuit's Bark-leav'd Peruvian *Baccharis*. (*Long spear-shaped leaves longitudinally indented and sawed.*)

2. **BACCHARIS neriifolia.** Oleander-leaved *Æthiopian Baccharis*. (*Spear-shaped, stiff leaves, indented at top.*)

These

These are very eligible shrubby ever-greens to augment the green-house collection; and may be propagated by layers and cuttings of the young shoots any time from March or April till July, giving plenty of water, or may be forwarded in a hot-bed, also by seed in a hot-bed, or bed of rich earth in April.

BERBERIS, BERBERRY TREE. (*Hexandria monogynia.*)

There is one moderate exotic shrub of three or four feet growth, armed with thorns, and garnished with small oval leaves, and small hexapetalous flowers, with six stamina, and one style, succeeded by a cylindrical, two-seeded berry.

The species is,

BERBERIS Cretica. Cretan box-leaved Berberry. (*Foot-stalks supporting one flower.*)

This shrub, being somewhat tender, keep it in the green-house collection while young, afterwards plant some in a warm part of the shrubbery, and retain some in pots among the exotics of the green-house.

It is propagated by layers of the branches and suckers from the root.

BOSEA. SHRUBBY GOLDEN ROD. (*Pentandria digynia.*)

It is an upright, strong, irregular branching exotic shrub, from the Canary Islands, six or eight feet high, with long purple veined leaves, white underneath, and clusters of purple flowers, having five roundish concave calycinal leaves, no petals, five stamina, oblong-oval germen, two styles, and a globular one-seeded berry.

There is only one species, viz.

BOSEA Yervamora. (*Yervamora*) or Golden Rod Tree.

This is propagated by cuttings in the Spring, and may be forwarded considerably by aid of a hot-bed or bark-bed.

BUBON, MACEDONIAN PARSLEY. (*Pentandria digynia.*)

They are herbaceous and shrubby perennials, with divided leaves, having rhomboidal oval lobes, and the stalks and branches terminated by white and yellow umbels of flowers, having a five-leaved involucre, with the general umbel composed of ten smaller, each of many small florets, with five petals, five stamina, and two styles, succeeded by an oval two-parted fruit, and two seeds.

The

The species are,

1. *BUBON Macedonicum*. Common Herbaceous Macedonian Parsley. (*Divided leaves rising from the root, having rhomboid oval indented lobes.*)
2. *BUBON Galbanum*. (Galbanum) Galbaniferous shrubby Æthiopian Bubon. (*Shrubby stems, divided smooth leaves with rhomb-shaped and indented lobes.*)
3. *BUBON gummiferum*. Gummiiferous shrubby Æthiopian Bubon. (*Shrubby stem, divided leaves, the lower ones with rhomboidal sawed lobes, and the upper ones pinnatifid and tridented.*)

These plants flower in July, August, and September but rarely any but the first sort afford ripe seed in England, the first of which being herbaceous rise with leaves and flowerstalks immediately from the root a foot or more high; and the second and third grow with shrubby stems and branches; the former six or eight, and the latter two or three feet high; and impart by incision a gummy substance.

They are propagated by seed, in the Spring, in light earth, or in pots, to be forwarded in a hot-bed, particularly the shrubby kinds, which propagate also by cuttings and layers.

BUPHTHALMUM Ox-EYE. (*Syngenesia polygamia superflua.*)

They are shrubby, undershrubby and herbaceous perennials, the two former growing with woody stems, from half a yard to six or eight feet; the latter with herbaceous stalks only a foot high; and are garnished with spear-shaped and spatulate-shaped leaves, and compound radiated yellow flowers, composed of leafy scaly imbricated general cups, inclosing numerous funnel-shaped hermaphrodite florets in the disk, and flat female ones in the radius, five stamina, and one style, succeeded by a single seed in each floret.

The green-house species are,

1. *BUPHTHALMUM arborescens*. Tree American Ox-Eye. (*Shrubby stalks, spear-shaped, entire opposite leaves, hoary on both sides.*)
2. *BUPHTHALMUM frutescens*. Shrubby American Ox-Eye. (*Shrubby stalks, spear-shaped, opposite leaves, having footstalks with two teeth.*)
3. *BUPHTHALMUM maritimum*. Maritime Sicilian Ox-Eye. (*Herbaceous dwarf stalks, spatulate shaped, alternate leaves.*)

The

The two shrubby kinds grow several feet high, the other rarely above a foot, and are all very floriferous plants, generally flowering from July or August until October, and the maritime kind great part of the year, but rarely afford plenty of seed in England.

They are propagated by cuttings of the young shoots and branches any time from March or April till July, in pots of light earth, and if plunged in a hot-bed, it will greatly forward them; also by seed in a warm border in April or May.

Keep them always in pots separately, and managed as other hardy green-house plants.

BUPLEURUM. HARE'S EAR. (*Pentandria digynia.*)

They are shrubby African exotics of four or five feet growth, one with singular difforme leaves at two different seasons, the others with oblong leaves, and umbelliferous greenish flowers in umbellate clusters at the ends of the branches, having a many-leaved involucre, each main umbel composed of ten smaller, consisting each of many small florets of five reflexed petals, five stamina, and two styles, succeeded by two-seeded fruit.

The species are,

1. **BUPLEURUM difforme.** Two-formed-leaved Æthiopian Hare's Ear. (*Decomposed cut plane leaves in the spring, and rush-like angular trifid ones in summer.*)

2. **BUPLEURUM villosum.** Hairy Æthiopian Hare's Ear. (*Oblong hairy leaves embracing the branches.*)

3. **BUPLEURUM fruticosum.** Shrubby oval-leaved Bupleurum.

4. **BUPLEURUM frutescens.** Undershrubby, linear-leaved Bupleurum.

These plants deserve a place in every good green-house collection; and are propagated by cuttings of the young shoots, in pots, in the spring and summer, or if plunged in a bark bed or hot-bed they will root sooner; also by seed affected by a hot-bed.

C.

CACALIA. (CACALIA) OF FOREIGN COLT'S FOOT. (*Syngenesia polygamia æqualis.*)

They are shrubby succulent ever-greens, rising with thick succulent stalks and branches, adorned with long taper spear-shaped, and oblong-oval thick fleshy leaves, and compound umbellate flowers at the ends of the branches,

branches, having an oblong scaly general cup, containing many tubulous funnel-shaped florets, with five stamens, and one style, succeeded by a naked seed in each floret, crowned with down.

The green-house kinds are,

1. *CACALIA Ficoides*. (*Ficoides*) Shrubby *Ficoides* leaved *Æthiopian Cacalia*. (*Thick taper compressed fleshy leaves.*)

2. *CACALIA Kleinia*. (*Kleinia*) Indian *Cacalia*, or Cabbage-tree. (*Compound shrubby stalk, spear-shaped plan leaves, their footstalks leaving scars.*)

3. *CACALIA Anteuphorbium*. (*Anteuphorbium*) *Anteuphorbium* *Æthiopian Cacalia*. (*Oval oblong flat succulent leaves, having three lines running along the footstalks.*)

4. *CACALIA papillaris*. Papillary thorny African *Cacalia*. (*Narrow succulent leaves, leaving their truncated footstalks on the stem and branches.*)

These plants, exhibiting a striking singularity of growth, demand a place in all curious collections, and that being of a succulent temperature should be kept in pots of light sandy earth, giving but very moderate waterings in winter, and more freely and frequent in summer, managing them as directed for other green-house succulents in the *Appendix*.

They are propagated by cuttings of the branches in spring and summer, which having lain a week or ten days to heal the succulent part of the cut, then planted in pots of light soil, they will readily take root, but may be forwarded in a hot-bed.

CACTUS. (*Melon Thistle*) **TORCH THISTLE.** Indian Fig, &c. (*Icosandria monogynia.*)

They are succulent perennials of America, exhibiting various singular and curious growths, in the numerous species of the green-house and stove collection; in the former are three species only, of very different structures and habit, having succulent prickly perennial fleshy stalks, in some rising large, single, angular, and erect like a column many feet high; others with many slender trailing stalks, and some with branching, thick, fleshy, flat, and bellied, jointed stalks, with the branches growing out of one another, in many oval articuli or joints loosely disposed and spreading; mostly all aphyllous, or without leaves; but produce elegant white and purple multi-

talous

contains flowers; having a monophyllous concave cup, a five corolla of many broad obtuse, and pointed petals, sometimes spreading like a radius, the interior ones short, and the exterior ones largest; twenty or more stamina with erect anthera, a germen under the corolla supporting a cylindric style, crowned with a multifid stigma, succeeded by oblong and sometimes pear and fig-shaped fruit in the different species, not eatable, and have numerous seeds.

The principal sorts that succeed in the green-house collection are the following, consisting of some of the Torch Thistle, Creeping Cereus, and Indian Fig kinds.

For the full collection see the *Stove Plants*.

1. *CACTUS hexagonus*. Six-angled greater upright Torch Thistle. (*Erect six-angled fleshy green stalk, elevated like a column, thirty or forty feet high, and large white flowers.*)

2. *CACTUS flagelliformis*. Flagelliform, Trailing Cactus, or Common Creeping Cereus. (*Trailing finely ten-angled, flagelliform or whip-thong-shaped, long, slender stalks, closely armed with soft spines, and bright purple flowers.*)

3. *CACTUS Opuntia*. (*Opuntia*) Common Opuntia, or Indian Fig. (*Many loose compressed oval fleshy branches, in numerous joints, armed with bristly spines, and yellow flowers, succeeded by fig-shaped prickly fruit.*)

They are all durable in root, stalk, and branches, natives of America, in rocky and dry soils, and having very succulent stalks must be kept always in pots of light sandy mold, or rubbishy compost, as being the most suitable to their succulent nature; the two first of which being the tenderest, require the warmest part of the green-house in winter, and but very little water in that season, nor exposed to excessive wet in summer: but the *Cactus Opuntia* is so hardy, that it will live in a warm border all the year; though some should always be retained in pots among the green-house plants.

They are propagated by cuttings of their stalks and branches, any time from April or May till July or August.

The upright Torch Thistle generally rising with one columnar fleshy stalk, sometimes emitting side shoots which being detached and planted will grow, but in default of natural shoots, the propagation is effected by cutting off the top to what length you think proper, and

after

after it has lain in the dry to heal over the humid part, plant it in a pot of light soil, and plunge it in bark or dung hot-bed, it will soon emit roots and grow. After this the parent plant from which the cutting was taken, will soon emit several side shoots for further propagation, managing them as above.

But the creeping *Cereus* and Indian Fig, growing with several stalks and branches, furnish means for plenty of cuttings, which, in the former, may be cut off in length from three or four to five or six inches: and the *Opuntia* kinds may be taken off in joints of the branches, laying the cuttings of both sorts in a dry place to heal over the moist cut part, then planted in pots of light soil, and plunged in a hot-bed, especially the *Cactus flagelliformis* to strike the cuttings, then placed with the other green house plants. See the *Appendix*.

CALENDULA. (*Marygold*) SHRUBBY AFRICAN MARYGOLD, &c. (*Syngenesia polygamia necessaria.*)

It furnishes for this place an ornamental flowering shrub with oval leaves, and a low herbaceous grassy, and spear-leaved perennials, with the stalks and branches terminated by large compound radiated purple and white flowers, having a multipart general cup, including many tubular hermaphrodite florets in the disk, and flat females composing the radius; five stamina, and one style, succeeded by oblong incurved seeds in the radiate florets.

The species are,

1. *CALENDULA fruticosa*. Shrubby Cape Marygold. (*Shrubby stalk, ovalish, slightly indented leaves.*)

2. *CALENDULA graminifolia*. Grass-leaved Æthiopian Marygold. (*Linear grassy entire leaves, and an almost naked flower-stalk.*)

3. *CALENDULA nudicaulis*. Naked stalked Æthiopian Marygold. (*Spear-shaped sinuated dentated leaves, and mostly naked stalks.*)

They are all natives of Africa; the first growing five or six feet high, the others about a foot, produce ornamental flowers, having the radius purple without, white within, and purple disks, appearing most part of summer and autumn.

Propagate the first sort by cuttings of the young shoots in spring and summer, in pots of light earth; and if plunged in a hot-bed it will forward their rootings.

And

And the second and third by slipping the off-set heads, potted and managed as the other; also by dividing the roots.

CALLA. ÆTHIOPIAN ARUM. (*Gynandria polyanthera*.)

It is an herbaceous tuberous-rooted, very ornamental, flowering perennial; the root crowned by a cluster of large heart-shaped, pointed leaves, and upright annual flower-stalks, two feet high, surmounted by a yellow spadix of numerous small whitish florets, protruded from a monophyllous, oval spatha, or sheath; the spadix single, digitated, and covered with numerous fructifications, without petals, many gynandrious stamens, roundish germen, and single style, succeeded by globular unilocular red berries.—The species is,

CALLA ÆTHIOPICA. *Æthiopian Arum.* (*Heart-shaped, arrow-pointed leaves; hooded spatha, and a spadix with male flowers at top.*)

Keep it in pots of light earth, among the green-house exotics; it appears in leaf all the year, and produces its spadix of flowers in May, of a musky odour, and may be propagated abundantly in spring and autumn by off-sets, planted singly in small pots.

CALLICARPA (Callicarpa) JOHNSONIA. (*Tetrandria monogynia.*)

It is an American flowering shrub, of four or five feet growth, with woolly young branches, oval spear-shaped, hoary rough, opposite leaves, and numerous small tubulous reddish flowers in whirls, having four-parted cups, a tubulous corolla, four-parted above, four stamina, and one style, succeeded by a globular four-seeded berry.

One species, viz.

CALLICARPA Americana. *American Callicarpa.*

It is propagated by seeds sowed in pots in the spring, and if plunged in a hot-bed, they will soon come up; likewise by layers of the young branches; and also by cuttings in a hot-bed.

CAMPANULA (Campanula) BELL-FLOWER. (*Pentandria monogynia.*)

It furnishes, for the green-house collection two eminent herbaceous flowery perennials, with thick fleshy roots, crowned with oblong and spear-shaped leaves, and erect

flower stalks, from half a yard, to five or six feet high, garnished with leaves, and large bell-shaped blue, white and red flowers, having monophyllous five-parted cups, a monopetalous bell-shaped five-pointed corolla, five stamina, an angular germen, single style, and a roundish angular capsule of three or five cells, having as many holes for the dispersion of the seeds.

The species are,

1. *CAMPANULA americana*. American Bell-Flower. (*Cordate-spear-shaped leaves, and large, five-parted spreading corolla.*)

Varieties.

Single white flowered.

Single blue flowered.

Double blue flowered.

2. *CAMPANULA canariensis*. Canary Bell Flower. (*Halbert-shaped, dentated, opposite, foot-stalked leaves, and large completely bell shaped reddish flower, and quinquelocular capsules.*)

These are elegant flowery plants, durable in root, but renew their leaves and stalks annually in spring; the first sort growing a foot and a half high, the other four, five or six feet; with many branching stalks, producing numerous beautiful flowers, the American sort in July and August, and the Canary kind in September, October and winter.

They are propagated by off-sets of the roots when the stalks decay; planting them in pots of light earth; giving occasional moderate waterings; and manage them as other herbaceous perennials of the green-house. See the *Appendix*.

CAPPARIS, CAPER BUSH. (*Polyandria monogynia.*)

It is a bushy shrub, three or four feet high, with roundish, smooth, entire, alternate leaves, and large white spreading flowers, having a four-parted concave gibbous cup, four large obtuse patent petals, numerous stamens with versatile anthera; a pedicillated germen without style, but an obtuse stigma, succeeded by an unilocular berry, and many seeds.

The species is,

CAPPARIS spinosa. Thorny Italian Capparis, or Tree Caper.

Caper Shrub. (*Spinous stalks, deciduous leaves and single footstalks, sustaining one flower.*)

This shrub, affecting to grow in rocky and rubbishy places, old walls and ruins, should be kept in pots of light sandy or rubbishy compost, and placed for variety in the green-house collection, is a native of Italy, &c. where its flower-buds are gathered in great abundance; being the capers so much esteemed for sauces in cookery.

It is propagated by seed, assisted by a hot-bed; also by slit-laying the young branches.

CASSINE, HOTTENTOT CHERRY, &c. (*Pentandria trigynia.*)

They are very ornamental shrubby ever-greens, exotics of Africa, growing five, six, or eight feet high; adorned with oval and oblong stiff entire, and sawed leaves: and lateral clusters of five-parted white flowers, having small five-parted cups, a corolla divided into five obtuse segments, inclosing five stamina, a conical germen without style, three reflexed stigmas, and an umbilicated, trilocular, three-seeded red berry.

The species are,

1. **CASSINE Maurocenia**, (*Maurocenia.*) Hottentot Cherry of the Cape. *Sub-oval stiff entire leaves, and red cherry-shaped berries.*)

2. **CASSINE Peragua**, (*Peragua.*) South-Sea Thea Shrub. (*Oblong roundish stiff serrated leaves.*)

CASSINE (*Phillyrea Capensis.*) Cape Phillyrea. (*Obverse-oval serrated leaves.*)

These elegant shrubs affect a fine variety in the green-house collection at all seasons, and produce flowers in July and August: the *Peragua* is also hardy enough to live in the open air in a warm situation; but being liable to suffer by hard frosts, it is proper to keep some also in pots as a reserve, and to encrease the variety of the green-house exotics.

They are propagated by seed and layers; sow the seed in the spring in pots of light earth, plunged in a dung or bark hot-bed; and layers of the young shoots in spring and summer.

CEANOTHUS (*New Jersey Thea*) **ALATERNOIDES.** (*Pentandria monogynia.*)

It furnishes for this place an ever-green shrub of Africa eight or ten feet high, garnished with spear shaped shining leaves, and clusters of small greenish flowers, having a acutely five parted cup, five roundish spreading petals, five stamina, trigonal germen, with a trifid style, and trilocular three seeded berry.

One species, viz.

CEANOTHUS *Africana*. African Ceanothus, or Alaternoides. (*Spear-shaped, sawed, smooth, shining leaves without nerves, and roundish stipula.*)

Keep it in pots of light earth, and may propagate by layers of the young branches, and by cuttings of the shoots, in pots plunged in a hot-bed.

CELASTRUS. (*Celastrus*) STAFF TREE. (*Pentandra monogynia.*)

It furnishes some beautiful ever green shrubs of Africa and America, growing from about a yard to six or eight, to ten or twelve feet high, in the different species ornamented with moderate spear-shaped oval and obtuse stiff leaves, and bunches of small whitish flowers, having unequally five parted cups, five oval spreading petals, five stamina, a ten-channelled immersed germen, on style and trifid stigma, succeeded by a trigonous three seeded red capsule.

The species are,

1. **CELASTRUS *pyracantha*.** Pyracantha-leaved African Celastrus, or Æthiopian Box Thorn. (*Taper branches naked spines, and acute spear shaped leaves.*)

2. **CELASTRUS *luxifolias*.** Box-leaved African Celastrus. (*Weak angular branches, leafy spines, and obtuse leaves.*)

3. **CELASTRUS *myrtifolius*.** Myrtle-leaved Virginian Celastrus. (*Erect spineless stalks, oval serrated leaves, and flowers in a racemous.*)

These are eminent ornamental shrubs for improving the green-house collection: the first grows a yard high; the second six or eight feet; and the third ten or twelve; keep them always in pots of light rich earth and managed as the other woody exotics of this department.

They are propagated by seeds, layers, and cuttings: sow the seed in pots of light soil half an inch deep in spring.

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spring; and may be forwarded in a hot-bed; layers of the young shoots in spring and summer will root the same year; and cuttings planted in pots and plunged in a hot-bed will be rooted in six or eight weeks.

CENTAUREA, CENTAURY, (*Syngenesia polygamia frutranca*.)

It consists of undershrubby and herbaceous perennials, with abiding stalks, growing a yard high, adorned with spear-shaped and pinnatifid leaves, and the stalks and branches terminated by heads of compound radiated white and yellow flowers, having a round scaly general cup, a corolla, composed of many tubular hermaphrodite florets in the disk and neuter or barren ones in the radius; five stamina, and one style, and a simple seed lodged in the calix. The species are,

1. **CENTAUREA fruticosa.** Shrubby Cretan Centaury. (*Shrubby stalks, spear-shaped obtuse smooth leaves.*)

2. **CENTAUREA sempervirens.** Ever-green Portugal Centaury. (*Under-shrubby perennial stalks, spear-shaped leaves, the lower ones hastated, or halbert-shaped.*)

3. **CENTAUREA regusina.** Regusian Silvery Knapweed. (*Under-shrubby perennial stalks, pinnatifid, white hoary leaves, with oval entire lobes, the exterior ones largest.*)

4. **CENTAUREA Cineraria, (Cineraria)** White Mountain Italian Centaury. (*Bi pinnatifid hoary white leaves, with acute lobes*)

Variety.

Cut-leaved, with purple flowers.

These plants effect a pretty variety at all seasons; and produce their heads of flowers in June and July.

They may be propagated by seeds and by cuttings: sow the seeds in April in a warm border, or may be forwarded in a hot-bed; and cuttings of the young shoots in spring and summer, will readily grow.

CERATONIA, CAROB TREE, or, St. John's Bread. (*Polygamia trioecia*.)

This is an ever-green of the moderate tree kind, and an exotic of Spain and Italy, growing fifteen or twenty feet high, ornamented with large singular pinnated thick dusky green leaves, and purplish male, female, and hermaphrodite flowers, on three distinct plants, having large five-lobed cups, no petals, five long stamina, a

fleshy germen, and long style, with a headed stigma, succeeded by large compressed sweetish eatable pods, containing several seeds.

There is but one species, *viz.*

CERATONIA *Siliqua*. (*Siliqua*) or Carob Tree.

This tree exhibits a singular and agreeable variety; and is easily raised from seeds sowed in spring, in pots of light earth, and plunged in a hot-bed; and when the seedlings are two or three inches high, prick them in separate small pots.

CHENOPODIUM, (*Goose-Foot*) **WILD ORACH**: (*Pentandria digynia*.)

They are low shrubby ever-greens of South and North America, with spear-shaped, oval, and multifid leaves; and small flowers, with leaved cups, no petals, five stamina, an orbiculate germen, having two styles, with obtuse stigmas, succeeded by single seeds, inclosed in the calix.

The species are,

1. **CHENOPODIUM** *fruticosum*. Shrubby Mexican Orach. (*Spear-shaped indented leaves*.)

2. **CHENOPODIUM** *anthelminticum*. Pennsylvanian Perennial Wild Orach. (*Oval oblong dentated leaves and leafless clusters of flowers*.)

3. **CHENOPODIUM** *multifidum*. Multifid Chenopodium of Buenos-Ayres. (*Oblong multifid leaves, with narrow linear segments, and axillary placed, close-sitting flowers*.)

They effect a variety among the green-house plants, and are propagated by slips and cuttings of the shoots in April, May, and June, &c. in pots of good earth; or may be forwarded in a hot-bed.

CHIRONIA, (*Chironia*) Shrubby African Centaury. (*Pentandria monogynia*.)

It furnishes two dwarf undershrubby flowery perennials of Africa, with infirm branchy stalks, two or three feet high, garnished with very narrow short succulent leaves, and the branches and shoots terminated by many large spreading red flowers, having a five-lobed cup, a tubulous corolla spread above in five parts, five stamina, and an oval germen, with a single style, crowned by a headed stigma, succeeded by a bilocular capsule and small seeds.

The species for this place are,

1. **CHIRONIA** *frutescens*. Shrubby capsularious Chironia. (*Spear-shaped linear somewhat downy leaves, and red flowers succeeded by capsules*.)

2. **CHI-**

2. *CHIRONIA baccafera*. Berry bearing Chironia. (*Narrow leaves, and red flowers, succeeded by oval berries.*)

These two exotics flower very ornamentally from June or July till September or October, and are therefore proper to embellish the green-house collection, keeping them in pots of light earth; and are propagated by seed sowed in pots of light compost in the spring, and plunged in a hot-bed; may likewise try them by cuttings, with the same assistance; and by layers.

CHRYSANTHEMUM, (*Chrysanthemum*) Corn Marygold. (*Syngenesia polygamia superflua.*)

In this place comes two low shrubby flowering exotics, growing two or three feet high, with a branchy head, adorned with narrow trifid, and oblong entire leaves, and lateral white, and yellow compound flowers, having hemispherical imbricated cups, containing many funnel-shaped florets in the disk, and oblong ligulated ones forming the radius, five stamina, and one style, and a naked seed to each floret.

The species are,

1. **CHRYSANTHEMUM frutescens**. Shrubby Canary Chrysanthemum. (*Linear, narrow, thick, succulent leaves, with trifid points, and small white flowers, having a flat radius.*)

2. **CHRYSANTHEMUM flosculosum**. Shrubby Floscular African Chrysanthemum. (*Oblong narrow stiff entire leaves, and hermaphrodite, bright yellow flowers composed wholly of floscular or hollow florets without a radius.*)

They flower very ornamentally all summer and autumn, also in winter, &c. and deserve admittance in the green-house collection for shelter in winter; planting them in pots of common earth; and may be propagated plentifully by slips and cuttings of the shoots any time from March till Midsummer, or after; giving shade and water.

CHRYSOCOMA, GOLDBY-LOCKS. (*Syngenesia polygamia æqualis.*)

It furnishes for the green-house some dwarf ornamental flowering shrubs, natives of Africa, growing half a yard or two or three feet high, with slender branchy heads, adorned with small narrow smooth, rough, and hairy leaves, and compound floscular yellow flowers, having scaly imbricated general cups, containing many hermaphrodite

funnel shaped florets, with five stamina, and one style succeeded by a single seed in each floret, crowned with down.

The noted sorts are,

1. *CHRYSOCOMA Coma aurea.* (*Coma aurea.*) Shrubby Coma Aurea, or Greater African Goldy Locks. (*Linear erect smooth leaves.*)

2. *CHRYSOCOMA cernua.* Nodding Under-shrubby Goldy Locks. (*Linear recurved roughish leaves, and pale yellow nodding flowers.*)

3. *CHRYSOCOMA ciliata.* Ciliated Under-shrubby Goldy Locks. (*Downy branches, linear erect ciliated hair leaves.*)

These three shrubby exotics flower profusely the greater part of summer and autumn, exhibiting an agreeable variety; and are easily propagated by cuttings in spring and summer, which, if potted and plunged in a moderate hot-bed, or close covered with hand glasses, and properly watered, they will soon emit roots, and shoot at top; then plant them in separate pots,

CINERARIA, RAGWORT. (*Syngenesia polygamia superflua.*)

They are undershrubby and herbaceous flowery perennials of Africa, with abiding stalks two or three feet high, garnished with oval wedge-shaped and oblong leaves, and the branches terminated by compound radiated blue and yellow flowers, having a many leaved general cup, including many tubular florets in the centre, and flat tongue shaped ones compose the ray, five stamina, an oblong germen, with two styles, and four-cornered downy seeds inclosed in the calix.

The species for the green-house are,

1. *CINERARIA Amelloides.* (*Amelloides*) Shrubby opposite-leaved Cape Ragwort. (*Shrubby stalk, oval opposite leaves, and long peduncles sustaining one blue flower.*)

2. *CINERARIA geifolia.* Geum-leaved Cape Ragwort. (*Declining stalks, wedge-shaped almost orbicular, sub-lobated indented leaves, having foot stalks; and branching flower stalks with many flowers.*)

3. *CINERARIA othonnites.* Othonna-leaved Cape Ragwort. (*Oblong, undivided, indented, alternate, foot-stalked leaves; and peduncles with one flower.*)

4. *CINERARIA*

4. *CINERARIA linifolia*. Flax-leaved shrubby Cape Ragwort. (*Shrubby stalk, narrow scattered leaves, and one flower on a footstalk.*)

These plants flower in summer and autumn, and the *Amelloides* almost the year round, all of which effect an agreeable variety in collection; and are easily propagated by seeds in a border of light earth in April and May, and by cuttings of the shoots any time from March till July, in natural ground, or forwarded in a hot-bed.

CISTUS, (Cistus) Rock-Rose. (*Polyandria monogynia.*)

The Cistuses are most beautiful ever-green flowering shrubs, natives of the southern warm parts of Europe, growing from two or three to five or ten feet high, mostly with branchy diffused bushy heads, adorned with oval, oblong, and heart-shaped leaves, all the year, and numerous large rosaceous spreading purple, yellow and white flowers, with five leaved cups, five large roundish spreading petals, numerous stamina, and one style. See the *Hardy Trees*.

Most of the Cistus kind are hardy enough to live in the shrubbery, except in very severe winters, when the following sorts are liable to suffer; so that it is proper to retain some also in pots, to have the shelter of a green-house in winter.

The species are,

1. *CISTUS creticus*. Cretan Cistus. (*Oval, spatulate rough leaves.*)
2. *CISTUS halimifolius*. Halimus leaved Portugal Cistus. (*Oblong oval, white hoary leaves, and linear sharp-pointed calycinal folioles, and yellow flowers.*)
3. *CISTUS populifolius*. Poplar leaved Portugal Cistus. (*Heart-shaped, pointed, smooth leaves, on footstalks.*)
4. *CISTUS pilosus*. Hairy Italian Cistus. (*Oval, hairy leaves, on footstalks.*)
5. *CISTUS crispus*. Curled, waved leaved Portugal Cistus. (*Spear shaped, trinervous, waved, downy leaves.*)
6. *CISTUS albius*. White leaved Spanish Cistus. (*Oval, spear-shaped, fissile, downy, white leaves.*)
7. *CISTUS incanus*. Hoary leaved Spanish Cistus. (*Spatulate-shaped, hoary, rough leaves, the lower ones uniting at the base.*)

These are not only very ornamental ever-green shrubs causing a conspicuous variety at all times of the year, in the different shapes, sizes, and colours of their leaves; but also very elegant flowery plants, producing a daily succession of numerous very ornamental flowers in May, June, and July; that in the whole they exhibit a delightful diversity in a collection.

They are propagated by seeds, and by cuttings and layers: sow the seeds in March or April, in a warm border, or in pots, and forwarded in a hot bed; and cuttings and layers of the young shoots in spring and summer will readily grow.

CITRUS, (*Citron Tree.*) Orange and Lemon Tree. (*Polyadelphia icofandria.*)

This genus comprehends very elegant ever-green tree kinds, rising with upright single stems and branchy regular heads, growing ten or twelve feet high, adorned with large oval-spear-shaped stiff shining evergreen leaves, and numerous pentapetalous fragrant white flowers from the sides of the branches; having monophyllous quinque-lobed cups, a corolla of five oblong spreading petals, many polyadelphious stamens, a roundish germen, with a cylindric style, crowned by a globular stigma, and the germen succeeds to a large oval and roundish yellow fruit, with nine internal cells, each containing two oval seeds.

The species are,

1. CITRUS *Medica*, (*Medica.*) Citron Tree. (*Large oval spear-shaped leaves with linear footstalks, and very large oval, rough rinded, pointed fruit.*)—Native of Asia.

Varieties.

Sour fruited Citron.

Sweet fruited Citron.

Long fruited Citron.

Warted-fruited Citron.

Recurved fruited Citron.

2. CITRUS (*Limon vulgaris.*) Common Lemon Tree. (*Oval spear-shaped leaves on linear footstalks, and oblong light yellow fruit, prominent at the ends.*)—Native of Asia.

Varieties.

Silver-striped leaved Lemon tree.

Gold-striped leaved Lemon tree.

Double flowered Lemon tree.

Sour

Sour Lemon.

Sweetish Lemon.

Large imperial Lemon.

Pear-shaped Lemon.

Proliferous, or childing Lemon.

Clustered Lemon.

Furrowed Lemon.

White Lemon.

Three-coloured striped Lemon.

3. CITRUS (*Lima.*) Lime, or Small American Lemon Tree. (*Spinous branches, oval leaves, and small oval yellow acid fruit, called Limes.*)—Native of America.

Common Lime.

Double flowered Lime.

4. CITRUS *Aurantium*, (*Aurantium.*) or Orange Tree. (*Oval spear-shaped leaves, having winged footstalks, and large globular reddish and yellowish fruit, compressed at both ends.*)—Native of India.

Varieties.

Seville Orange. (Large reddish rough-rinded sour fruit.)

China Orange. (Yellowish, smooth rinded, fine eatable sweet fruit.)

Great Shaddock Orange. (Very large.)

Horned Orange. (Divided like two horns.)

Hermaphrodite Orange. (Assuming both an Orange and Citron.)

Dwarf Nutmeg Orange Tree.

Striped-leaved Dwarf Orange Tree.

Willow-leaved Orange Tree.

Striped-willow-leaved Orange Tree.

Myrtle-leaved Orange Tree.

Striped myrtle-leaved Orange Tree.

Curled-leaved Orange Tree.

Variiegated curled-leaved Orange Tree.

Silver-striped leaved Orange Tree.

Gold-striped leaved Orange Tree.

Double flowered Orange Tree.

5. CITRUS *trifoliata*. Three-leaved Japanese Orange Tree. (*Ternate, serrated leaves, with membranaceous footstalks.*)

These trees being adorned the year round with fine luxuriant foliage, and producing numerous ornamental flowers

flowers and fruit, they form the principal furniture of our green-house collections, exhibiting a grand appearance all the year; produce a profusion of most fragrant white flowers in May and June, succeeded by the young green fruit in June and July in great abundance, advancing gradually in growth till next year, when they attain full growth, and ripen: and the trees have this peculiarity; they exhibit both flowers, young green fruit in different stages of growth, and full grown ripe yellow fruit all at the same time, affecting a most beautiful contrast. The fruit often arrives to good perfection here in England for use, the Citrons, Lemons, and Seville Oranges for domestic purposes, and the China Orange for eating.

They being natives originally of distant warm climates, Asia, America, and India, must always have shelter here in winter in a green-house, kept in pots, and tubs of rich loamy soil; planted first in moderate-sized pots, shifting them occasionally into larger, and when grown large, must be shifted into tubs hooped with iron, and have two hooked iron handles, on the sides opposite, near the top, for the greater convenience of moving them in and out of the green-house; and when in very large tubs, have strong poles to slip into the handles, to be carried between two or more men.

Sometimes these trees are also planted in the full ground, both as wall-trees and standards, under an erection of frame-work for the support of glasses in winter.

The propagation of all the sorts is by budding them upon stocks of their own kind, raised from the kernels of the fruit, trained to a single stem, two, three, or four feet high, then budded with the desirable varieties in August.

To raise stocks for budding upon, provide seeds either of Citron, Lemon, or Oranges, from rotten fruit or others, in the spring, about March or April, and sowed in pots of light rich earth, half an inch deep. and plunged in a hot bed, in which they will soon come up, giving plenty of air and water, hardening them by degrees to the full air in June, to remain till October, then moved into the green-house; and in April plant them out singly in small pots, which, if placed in a bark-bed, or dung

hot-bed, under glasses, it will forward them exceedingly; furnishing them duly with water and fresh air, and they will run up twelve, fifteen inches, or half a yard or more high by the end of July, then have the full air for the remainder of the summer, and in the green-house in winter, and the largest will be ready to bud next August.

Or if you would draw them with taller stems, may shift them into larger pots in April, and plunge them again into a bark pit under glasses till July, as before, when they will be run up two feet or a yard high.

In proceeding to the operation of budding them, take off some cuttings of the young shoots of the year, from some of the handsomest free shooting Citron, Lemon, and Orange trees, of any of the sorts required; and from which cuttings take the buds, as directed in the article *Budding*, and insert them into the sides of the stocks, one in each, or two opposite, at from about a foot, to fifteen inches, or half a yard from the bottom, or at two or three feet, or more, if thought proper, directly removing the pots into a green-house or glass-case, out of the wet, but have the front open to the full air, and occasionally shaded from the mid-day sun; or, if there is the convenience of a bark-pit, having a moderate bark hot bed, plunge the pots therein a fortnight or three weeks; it would greatly facilitate the junction of the bud with the stock; afterwards remove them to the full air till the end of summer, then moved early into the green-house.

Next March or April cut off the head of the stock just above the insertion of the bud, which will now soon after push forth a shoot, half a foot or twelve inches, or more, the same year.

If, however, at the time of heading down the stock, the pots are plunged in a bark-bed, and well supplied with water, they will probably form a shoot of half a yard or two feet long by the end of July, when they should be inured to the full air, to harden the shoots against winter.

With regard to training, may run them with the first shoot to a single stem, one, two, or three feet high, or more, according as required to have the head lower or higher, then topped a little in spring, to force out lateral shoots, to form the head; observing, if these second shoots come out thinly, or irregular, you may shorten them the same year in June, or next spring, to a few eyes, to gain a larger supply

supply of branches; or if any ramble out irregularly, let it also be pruned in due time, to a proper length, to promote the regularity of the general head.

Ready-budded young Orange and Lemon Trees, &c. are annually imported from Italy, having the shoots or head from the budding already formed, of from one or two to several years growth, and are sold at the Italian warehouses in London, &c. not in pots, only having some moist moss about their roots, and may be obtained of any size at moderate prices; so that if required to have large fruitful trees as soon as possible, the spring, about March, April, and May, is the proper time to apply; observing, previous to planting, to place them in a tub of water, five or six hours, or more; then plant them in large pots or tubs of rich loamy earth, and plunge them in a bark hot-bed, in a glass case or green-house; giving frequent waterings, and admit the free air in all fine weather, to remain till July, when they will have taken good root, and shot forth at top, and then may be fully exposed in the full air till October.

As to the future culture of the Orange and Lemon Trees, &c. in general, keep them always in pots or tubs of good rich garden earth, and placed in the green-house from October till the middle or end of May, or beginning of June, and then removed into the full air for the summer; giving them necessary waterings not more than once a week in winter, frequenter in spring, and three times a week in summer; and occasionally in spring and autumn, &c. loosen the surface of the earth in the pots or tubs containing the plants, also sometimes in spring, removing a little of the old earth at top an inch or two deep, and replace it with fresh mold, and give a moderate watering: likewise be careful when the leaves contract any sort of foulness or insects, &c. to wash them clean leaf and leaf with a sponge and water; and carefully pick off all decayed leaves according as they appear, and cut out decayed wood that casually occur.

Observe also, that according as the plants advance considerably in growth, to shift them in the spring into larger pots, or into tubs, when arrived to a large size; being careful at each shifting to remove them with the whole ball or mass of earth about their roots entire, only trim-

ming

ming some away around the outside and bottom of the ball, together with any very matted, and decayed mouldy fibres of the extreme roots; then having put some fresh earth into the bottom of the new pot or tub, place the plant with its ball of earth about the roots therein, fill up around with more earth to the top, and give a moderate watering to settle the earth close about the ball and extreme roots

Keep the heads of them always in a somewhat regular form, by occasionally reducing to order any casual irregular-growing, or very rambling and cross-placed branches, pruning them shorter or longer, or entirely away, as it shall seem necessary; as also to thin any too abundant crowding shoots or branches.

If the head of any casually assume a very thin, straggling, weakly growth in general, the branches may be wholly pruned to six or eight inches in the spring, and they will break forth abundantly in strong lateral shoots from the remaining lower eyes the same year, and form a more full and regular head; but might be greatly assisted in this, if after heading down, the pot or tub is plunged in a bark-bed.

Or if any affect a very sickly decaying state, transplant them wholly into entire new earth, the old being cleared quite away from about the roots, which prune, and cut down the branches to six or eight inches, then plunge the pot or tub containing the plant, into a bark-bed, and they will thus recover, and push forth strong shoots.

CLIFFORTIA, (*Cliffortia*) (*Dioecia polyandria*.)

This genus retains some moderate shrubby ever-greens, natives of *Æthiopia*, growing three or four feet high, with bushy diffused heads, garnished with stiff, oblong, heart-shaped, spear-shaped, and trifoliate leaves, and on separate plants, male and female yellowish apetalous flowers, single, and in clusters, having three-leaved cups, no corolla, or petals, numerous stamina in the male flowers, and in the females, an oblong germen, two feathered styles, succeeded by an oblong, taper, bilocular capsule, and one seed.

The species are

1. **CLIFFORTIA *Ilicifolia*.** Ilex-leaved Cliffortia. (*Almost heart-shaped, indented, stiff leaves.*)

2. **CLIF-**

2. *CLIFFORTIA ruscifolia*. Ruscus-leaved Cliffortia. (Small spear shaped, stiff, entire leaves.)

3. *CLIFFORTIA trifoliata*. Trifoliate-leaved Cliffortia. (Ternate or trifoliate leaves, having the middle lobe tridented.)

These shrubs retaining their leaves the year round, produce an agreeable variety in assemblage; the first of which is the most noted in the English gardens; are all natives of Africa, require the shield of a green-house in winter, and are propagated by cuttings, assisted by a hot-bed, and by layers of the young wood.

CLUTIA (*Clutia*) (*Dioecia gynandria*.)

They are ever-green shrubs of Africa and Asia, rising six or eight feet high, adorned with spear-shaped and oval entire leaves, and male and female greenish flowers, on separate plants, having five-leaved cups, five heart-shaped petals, five gynandrious horizontal filaments in the males, and in the females a roundish germen, and long stamiferous style, succeeded by a globular six-furrowed, three-seeded capsule.

The species are,

1. *CLUTIA alaternoides*. Alaternoid-leaved Æthiopian Clutia. (Linear spear-shaped, close-sitting leaves, and solitary erect flowers.)

2. *CLUTIA pulchella*. Comely Purslane-leaved Æthiopian Clutia. (Oval entire leaves, and lateral flowers.)

3. *CLUTIA Eluteria*. (*Eluteria*) Indian Heart-leaved Clutia. (Heart-shaped-spear-pointed leaves.)

These shrubs appearing always green, are very ornamental the year round; and are propagated by cuttings, in spring and summer, in pots, plunged in a moderate bark or dung hot-bed; also by layers of the young branches.

COLUTEA, BLADDER SENNA. (*diadelphia decandria*.)

It comprises for the green-house collection a fine ornamental scarlet flowering shrub, of four or five feet growth, adorned with pinnated many-lobed leaves, and bunches of papilionaceous scarlet flowers, with bell-shaped cups, and the corolla consisting of a standard, two wings, and a carina, ten diadelphious stamina, one style, and bladder-like seed pods.

One species for this place.

COLUTEA frutescens. Shrubby Æthiopian Scarlet Colutea. (*Shrubby stalk, and winged leaves, of ten or twelve pair of oval, oblong lobes, terminated by an odd one.*)

This elegant shrub flowers ornamentally in June and July, it is employed both as a green-house plant, and occasionally for the shrubbery, in a warm situation, in the full sun, as being impatient of severe frost; and is propagated by seed, in a warm border in March or April, or in pots, forwarded in a hot-bed.

COMMELINA. (*Commelina*) (*Triandria monogynia.*)

It furnishes herbaceous flowering perennials of America and Africa, growing with upright and declined stalks, half a yard, or two or three feet long, garnished with oval and spear-shaped leaves, and blue, and yellow hexapetalous flowers, having spathaceous-like heart shaped cups, six oval concave petals, two of them being large and coloured, the others are greenish, like calycinal leaves, three stamina, a roundish germen, and twining style, succeeded by a three-furrowed trilocular capsule with six seeds.

The species are,

1. **COMMELINA erecta.** Upright American Commelina. (*Erect, rough, simple stalks, oval spear-shaped leaves, and unequal corolla.*)—Blue flowers.

2. **COMMELINA Africana.** Decumbent African Commelina. (*Decumbent rooting stalks, spear-shaped, smooth leaves, and unequal corolla.*)—Yellow flowers.

3. **COMMELINA tuberosa.** Tuberous-rooted Mexican Commelina. (*Declining stalks, oval spear-shaped, ciliated, sessile leaves, and equal corolla.*)—Blue flowers.

4. **COMMELINA Zanonina.** (*Zanonina*) Grassy-leaved American Commelina. (*Declining stalks, spear-shaped, grassy leaves, forming a sheath round the stalk, thick peduncles, and equal corolla.*)—Blue flowers.

Keep them in pots of light rich earth, and dispose them in the green house collection, to encrease the variety, in which they will also exhibit an agreeable singularity in their flowers, having different coloured petals in the same corolla; generally flowering in June, July, and August.

But

But the last two species being tenderest, are also sometimes retained among the stove-plants. They young sh

They are all propagated by seeds, sowed in a warmer; and border, in April, or in pots, and forwarded in a hot-bed likewise by off-sets of the roots in spring. fourth fo

CONVOLVULUS, (*Convolvulus*) BINDWEED, (*Pandantia monogynia*) Of th

It furnishes some undershrubby and herbaceous perennial exotics, some rising with volubilate climbing stalks closely many feet high, by support; others with slender upright yellow stems, only two or three feet high; and some with prostrate stalks; garnished with heart-shaped, lanceolate, and linear, downy, and silky leaves, and bell shaped spreading flowers, having monophyllous five-pointed cups, large monopetalous bell-shaped spreading corolla, five stamens, and roundish germen, with one style, succeeded by a roundish capsule, containing several round seeds. stalks, 1. C

The species are,

1. CONVOLVULUS *canariense*. Shrubby Canary Convolvulus. (*High climbing, twining stalks, heart-shaped, downy leaves, and peduncles having many flowers.*) Bane. 3, C

Varieties.

Purple flowered.

White flowered.

2. CONVOLVULUS *Cneorum*. (*Cneorum*) Silvery Spanish Convolvulus. (*Upright, under-shrubby stalks, spear-shaped, downy, silvery leaves, and flowers growing in beads.*) It co

3. CONVOLVULUS *Dorycnium*. (*Dorycnium*) Shrubby oriental silky Convolvulus. (*Shrubby paniculated stalks, and nearly linear silky leaves.*) and el

4. CONVOLVULUS *cantabrica*. Cantabrian forking-branched Toad's flax-leaved Convolvulus. (*Branching, somewhat-forked, herbaceous stalks, and linear acute leaves.*) shaped diadel

These exotics exhibit an eligible variety; the first and second sorts particularly, which are the most noted in the English green-house collections, and make a pretty appearance, in their beautiful downy and silvery foliage; and they all flower ornamentally in June, July, and August, and merit admittance in every green-house collection. long, T

They

They are propagated by layers and cuttings of the young shoots, in the first three species, in spring and summer; and the cuttings may be forwarded in a hot-bed; likewise by seed, in a warm border, or hot-bed; and the fourth sort principally by seed; and by root off-sets.

CONYZA, FLEA BANE. (*Syngenesia polygamia superflua.*)

Of this genus there belongs to the green-house, a low, diminutive, hoary undershrub, six or eight inches high, closely garnished with oval, hoary, silvery leaves, and bright yellow compound flowers, having an oblong square, scaly, general cup, including many funnel-shaped florets in the disk, and flat ones in the radius, five stamina, and one style, and a downy seed to each floret.

The species is,

1. *CONYZA candida*. White silvery Cretan Flea Bane. (Ovalish hoary silvery leaves, and lateral and terminal foot-stalks, with clusters of yellow flowers.)

2. *CONYZA balsamifera*. Balsamiferous Indian Flea Bane. (Spear-shaped leaves, downy underneath.)

3. *CONYZA saxatilis*. Saxatile, or Rock Italian Flea Bane. (Shrubby downy stem, linear subindented leaves, and penduncles, having one flower.)

It affords a very agreeable variety in its silvery leaves; and is easily propagated by slips and cuttings of the young shoots in spring and summer.

CORONILLA, JOINTED-PODDED COLUTEA. (*Diadelphica decandria.*)

It comprises for this place, low shrubby ever-greens, half a yard to two, three, or four feet high, adorned with pinnated leaves, composed of from three or five, to nine, ten, and eleven lobes, and papilionaceous flowers in bunches, from the sides and ends of the branches; having monophyllous, compressed, bifid cups, a corolla, with heart-shaped vexillum, two oval wings, and short carina, ten diadelphous stamina, taper germen, bristly style, and long, taper, jointed pod, with many seeds.

The species are,

1. *CORONILLA coronata*. Greater nine leaved Coronilla. (Leaves composed of nine ob-oval lobes, the inner ones approaching the stalk.)

2. *CORONILLA argentea*. Silvery eleven-leaved Cretan Coronilla. (Leaves composed of eleven small silvery lobes, the outer one largest.)

3. CORO-

3. *CORONILLA glauca*. Glauous seven leaved French Coronilla (*Glauous or sea-green leaves, composed of seven lobes, and spear-shaped stipula.*) April to June, then pluck them every week, and use them in the green-house, for a bark and summer use.

4. *CORONILLA valentina*. Valentian lesser nine leaved Coronilla. (*Leaves mostly nine lobed, and orbicular stipula.*) CRA

5. *CORONILLA juncea*. Rushy five and three-leaved Marseilles Coronilla. (*Slender branches, leaves of three or five very narrow spear-shaped obtuse fleshy lobes.*) ever. The

These shrubs furnish a distinguishable variety in the with different pinnated ever-green leaves, and are very floriferous in March and June, in bunches from the sides and ends of the branches, succeeded by abundance of ripe seed in autumn from ornamental thick flowers.

They are propagated by seed, sowed in a warm border in March or April half an inch deep, or in pots, plunged in a moderate hot-bed to bring them forward. long, and fine oblong

Try them also by layers, and by young cuttings in hot-bed.

COTYLEDON, (*Cotyledon*) NAVEL-WORT. (*Decadria pentagynia*.) 1. (Joining)

It furnishes curious succulent African perennials, with durable fleshy stalks and leaves, growing from six or eight inches to two or three feet high, adorned with round orbicular, semi-globular, and narrow, thick, fleshy leaves, and clusters of yellow flowers, having monophyllous five pointed cups, a bell-shaped five-parted corolla, ten stamina, and five germina and styles, succeeded by five oblong, bellied, unilocular, many seeded capsules. 2. opian fleshy, 3. Crassifolia, 4. below

The green-house species are,

1. *COTYLEDON orbiculata*. Orbicular-leaved C. Cotyledon. (*Succulent crooked branching stalks, roundish orbicular, plane, fleshy, entire leaves.*) 4. leave culen

2. *COTYLEDON hemisphaerica*. Hemispherical or semi-globular leaved Æthiopian Cotyledon. (*Succulent low branchy stalks, and thick half-globular fleshy leaves.*) 5. (Succulent) 6. succu

3. *COTYLEDON spuria*. Spatulate-leaved Cape Cotyledon. (*Succulent branchy stalks, and oblong spatulate-shaped fleshy, entire leaves.*) 7. Crassifolia orbicular, 8. brica

Plant these succulents in pots of light sandy soil, and dispose them in the green-house collection, in which they will afford a curious variety; and are propagated by small cuttings of their succulent branches, any time from April to

Free April to August, laying them to heal over the cut part ;
then plant them in pots of dry compost, and place
them either in a frame, under glasses, or in the green-
house, out of the wet; or may be greatly forwarded in
a bark or dung hot-bed, giving moderate waterings in
summer, and but very little in winter.

CRASSULA, (*Crassula*) LESSER ORPINE, or Live-
ever. (*Pentandria pentagynia*.)

They are succulent, undershrubby perennials of Africa,
with durable stalks, and abiding fleshy leaves; obtaining
from one or two feet to a yard or two high, or more, or-
namented always with oblong, ovalish, and spear-shaped
thick fleshy leaves, and pentapetalous scarlet and white
flowers, having pentaphyllous, or five-leaved cups, five
long, narrow, spreading, reflexed petals, five stamina,
and five oblong germina and styles, succeeded by five
oblong univalvular capsules, with many seeds.

The species are,

1. CRASSULA *coccinea*. Scarlet Æthiopian Crassula.
(*Jointed succulent stalks, oblong, plane, fleshy, cartilaginous-cili-
ated leaves, connate at the base, and umbels of scarlet flowers.*)
2. CRASSULA *cultrata*. Knife-shaped leaved Æthi-
opian Crassula. (*Feeble succulent stalks, oblong-oval obtuse,
fleshy, opposite, entire leaves, narrow at the base.*)
3. CRASSULA *perfoliata*. Perfoliate-leaved African
Crassula. (*Erect tall succulent stalks, spear-shaped-awl-form-
ed, thick, fleshy, plane-slightly-channelled sessile leaves, convex
below, connate opposite, and perforated by the stalk.*)
4. CRASSULA *Portulacaria*. (*Portulacaria*) Purslane-
leaved Crassula. (*Upright, succulent stalk, ob-oval, suc-
culent, fleshy, opposite leaves.*)
5. CRASSULA *tetragona*. Tetragonous-leaved Crassula.
(*Smooth, succulent stalk, awl-shaped, slightly four-cornered
succulent leaves.*)
6. CRASSULA *orbiculata*. Orbicular headed, creeping
Crassula. (*Feeble, proliforous, trailing stalks, terminated by
orbicular, leafy heads, with the leaves spreading, and im-
bricated.*)
7. CRASSULA *nudicaulis*. Naked stalked Crassula.
(*Awl-shaped, fleshy leaves, in heads from the root, and a
naked or leafless annual flower-stalk.*)

These

These are all perennial in root, stalk, and branches with the leaves also persistent; flowering principally in June, July, and August, and sometimes in spring, and as the plants exhibit a curious singularity in their general structure, they effect an agreeable variety, keeping them in pots of light sandy compost, and but sparingly watered in winter, and about twice a week in summer, in dry weather.

They are propagated; the first five sorts, by cuttings of their stalks and branches, and the other two, by off-sets of their heads, planting them in summer, in pots, shaded from the sun, and excessive wet, or may be brought forward in a hot bed.

CRINUM, (*Crinum*) ASPHODEL LILY. (*Hexandria monogynia*.)

For the green-house collection this is an eminent tuberous-rooted flowery perennial, rising with long spear-shaped leaves, embracing one another, and upright annual flowerstalks two or three feet high, terminated by a two-leaved spatha-like involucre, protruding a large head of blue funnel-shaped tubulous flowers, dividing above in six reflexed segments, inclosing six stamina, and one style, succeeded by an oval trilocular capsule, with oval seeds.

The species are,

CRINUM Africanum. African Blue Asphodel Lily. (*Nearly spear shaped plane leaves, and obtuse corolla*.)

Plant the roots in pots of light earth, and they will flower annually towards autumn; they are propagated by root off-sets, detached when the leaves and stalks decay, and planted singly in pots.

CROTON, BASTARD RICINUS. (*Monoecia monadelphica*.)

In the English green-houses there is one shrubby species retained for variety, adorned with roundish entire leaves, and male and female flowers, having five leaved cups, five petals, numerous united stamina, a roundish germen, with three styles, and roundish trigonous, trilocular capsules, with three seeds.

CROTON sebiferum. Chinese Tallow Tree. (*Roundish rhombose, smooth, entire leaves, pointed at both ends*.)

It is retained as a curiosity, and to encrease the green-house variety; and may be propagated by seeds, and young cuttings in a hot-bed, in the spring.

CUNONIA,

CUNONIA. (*Cunonia*) (*Decandria digynia.*)

It is a shrubby exotic of the Cape of Good Hope, garnished with pinnated leaves of many spear-shaped, smooth, serrated lobes, and the branches terminated by spikes, of pentapetalous or five-leaved flowers, with ten stamina, and two styles.

CUNONIA capensis. Cape Cunonia.

It is propagated by seed, and cuttings, assisted by a hot-bed in the spring.

CUPRESSUS, CYPRESS TREE. (*Monoecia monadelphica.*)

One species, an African ever-green tree, with loose spreading branches, garnished with narrow awl-shaped leaves; and male and female flowers, in oval catkins and roundish cones, without petals and stamina, but four united anthera, and a short style, and the female flowers succeed to oval scaly cones, furnished with seed.

CUPRESSUS juniperoides. Juniper-leaved, Cape Cypress Tree. (*Awl-shaped, opposite spreading leaves, crossing one another.*)

Plant it in pots of common earth, and place it among the green-house exotics, where it will afford a pleasing variety; it is easily raised from seeds, in a warm border in March or April, or in pots, and plunged in a hot-bed, to bring them forwarder.

CYCLAMEN, (Cyclamen) SOW BREAD. (*Pentandria monogynia.*)

It comprises for the green-house low herbaceous very ornamental flowery perennials, with round, tuberous, fleshy roots, crowned by a tuft of largish heart-shaped, angular, spotted, marbled leaves, and fleshy flower stalks, half a foot high, terminated by reflexed flowers, having five-parted cups, a monopetalous corolla, globular and tubulous below, divided above into five spear-shaped reflected segments; containing five stamina, a roundish germen, and one style, succeeded by a globular berry, with many angular seeds.

The species are

1. *CYCLAMEN Europæum.* European Cyclamen. (*Heart-shaped angulated leaves, and retroflexed corolla.*)

Varieties.

It comprises both hardy European, and tender Asiatic varieties; all however affecting the same habit of growth, differing

differing somewhat in the size, shape, and colour of the leaves and flowers, and seasons of flowering; consisting of spring, autumn, and winter flowering kinds, which for the green-house are,

Spring flowering varieties, producing their flowers in March and April, viz.

CYCLAMEN (Persicum) Persian spring flowering Cyclamen.
Heart-leaved, white flowered, with purple bottoms.

Angular heart-leaved, white and purple flowered, with crimson bottoms.

Marbled-leaved, white sweet scented flowered.

Yellow flowered

Autumnal flowering varieties, producing their flowers in August, September, and October, viz.

Large orbicular heart-leaved, purple Cyclamen.

Small orbicular-leaved, flesh-coloured flowered.

Winter flowering varieties, flowering in December, January, and February, viz.

Orbicular plane-leaved, bright purple flowered.

Angular-leaved, reddish flowered.

White flowered winter Cyclamen.

2. *CYCLAMEN indicum.* Indian Cyclamen of Ceylon.
(With the limb of the corolla nodding.)

They have all large orbicular and roundish fleshy roots, the leaves and flower-stalks rising immediately from the root, seldom exceeding six or eight inches high, and when the flowers fade, the stalks shrink spirally to the earth, and envelope the seed bud among the leaves, which decay in May and June, and the seed vessel encreases in volume, ripening in June, July, and August.

They all exhibit a very ornamental variety, both in their variegated large leaves, and beautiful and singularly curious reflexed flowers; plant them, when the leaves decay, in pots of good light earth, and place them to have only the morning sun all summer, and in October placed in the green-house; giving very moderate supplies of water, and shift them into fresh earth once in a year or two, at the decay of the leaf.

They are propagated by seed, and by dividing the roots; sow the seed, as soon as ripe, in large pots, or in boxes of light earth, half an inch deep, and placed in the morning sun only till October, then moved under shelter of a

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frame and glasses, or in the green-house windows; they will come up in the spring, and when the leaves decay in summer, sift a little fine earth over the surface; then next year, at the decay of the leaf, plant them out in separate small pots, in which, in a year or two after, they will begin to produce flowers.

The propagation, by the root, is sometimes by off-sets, which they produce but sparingly; and sometimes by cutting the main root, in two or more pieces, furnished with buds, planting them again directly.

CANARINA, CANARY BELL-FLOWER. (*Hexandria monogynia*.) See CAMPANULA.

D.

DIGITALIS, Fox-GLOVE. (*Didynamia angiospermia*.)

It furnishes a pretty flowering shrub, for this place, growing five or six feet high, decorated with large spear-shaped leaves, and the branches terminated by spikes of ornamental tubulous flowers, having five-lobed cups, a tubular bell-shaped corolla, slightly four-parted above, two long, and two short stamina, an acuminate germen, and simple style, succeeded by an oval bilocular capsule with angular seeds. — The species is,

DIGITALIS *canariensis*. Canary shrubby Fox-Glove. (*Spear-shaped calycinal folioles, and an acute two-lipped corolla.*)

It flowers from the beginning of summer till autumn, affording an ornamental variety, and is easily propagated by seeds, sowed in autumn or spring, in pots of good earth, and if placed in a hot-bed in the spring, it will bring up the plants sooner; try it also by cuttings and layers.

DIONÆA, VENUS FLY TRAP. (*Decandria monogynia*.)

This genus furnishes but one species, a curious herbaceous perennial sensitive plant, of very low growth, and wonderful singularity in the figure and sensibility of its leaves, which, being contrived like a machine, instantly close upon flies and insects that approach them, in a surprising manner, and crush them to death: it hath a squamous root, sending up many roundish succulent, jointed, simple leaves, on longish, flat, winged footstalks, which are jointed; the upper joint consisting of two semi-oval jointed lobes, furnished at the margin with a set of long

D

teeth,

teeth, which, when the leaf closes, lock in each other, holding fast any insect or substance by which they may be inwardly irritated; among the leaves issue the stalk, six inches high, terminated by a spike of white flowers, having a cup of five concave, oval leaves, a corolla of five oblong oval petals curled at the sides, ten stamina, with roundish anthers, a roundish germen, and filiform style, succeeded by a gibbous unilocular capsule, with many small oval seeds.

The species is,

DIGNÆA muscipula. Venus Fly Trap.

This surprising little plant is a native of the Swamps of North Carolina, and should be planted in pots of black lightish moist soil, and retained among the green-house plants for shelter in winter, or in a garden frame, under glasses; or to have its sensible quality more active at all times, it may be effected by keeping it in an airy part of a hot house, placing the pots in shallow pans of water; though it will also live in the open ground, in a warm situation, and defended under a hand glass, and this covered with mats in frosty weather.

But in general retain them principally in pots for the green-house collection.

The muscular motion of this astonishing little plant, like that of the sensitives of the genus *Mimosa*, is owing to a strong contraction of the fibres of the leaves, which being touched on the upper surface, the two side lobes instantly spring up with great facility, and so strong a spring inclosing a fly, or any substance, that they never open again while it continues there; and that if forced to remove it, the lobes will snap off rather than yield; if however it can be disengaged without violence to the leaf, the lobes will expand again.

But what is very remarkable in this sensitive plant, is its singular manner of destroying flies, and other insects which approach it; nature appears to have some secret design, by forming the leaves, like a machine, as suggested above, the two lobes of the upper joint having not only so strong a spring, armed with teeth, for the immediate destruction of the animal, but also as a bait for the unhappy insect, the upper surface, &c. is covered with minute red glands, supposed to discharge a sweet liquor, that

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that tempts the poor animal to taste them ; and the instant those tender parts are irritated by its feet, the two lobes fly quickly up, grasp it, and lock the rows of spines together ; and lest the strong efforts for life should serve to disengage the insect, there are three small erect spines fixed also in the middle of each lobe, among the glands, which effectually put an end to all its struggles.

But the plant, however, cannot distinguish between an insect and vegetable, or any other substance ; for if we introduce a straw or a pin between the lobes, they will grasp it full as fast as if it were an insect.

Upon touching the leaves in warm weather, and particularly at noon, the contraction is sharp, and surprisingly active, but in cold weather very little sensible motion ensues ; so that its sensitive quality is generally in proportion to the heat of the weather, as well as depends much on the vigour of the plant.

Its propagation may be effected by seed procured from America ; and by off sets of the roots.

DIOSMA, (*Diosma*) **AFRICAN SPIRÆA**. (*Pentandria monogynia*.)

They are very ornamental flowering shrubs, of moderate growth, rising with branchy stems from three or four to five or six feet high ; adorned with small awl shaped, linear, spear shaped, and oval leaves ; and numerous spikes and clusters of white, and red flowers, at the sides and ends of the branches, having permanent cups, divided into four or five segments, a corolla of five oval obtuse erect petals, five stamina or filaments, a germen crowned by a quinquefid nectarium, and a single style, succeeded by five united compressed capsules, each having one oblong seed.

The principal species are the following, all natives of Africa :

1. **DIOSMA oppositifolia**. Opposite-leaved Cape Diosma. (*Awl-shaped, acute, opposite leaves, and numerous white flowers along the sides of the branches.*)

2. **DIOSMA hirsuta**. Hairy, sweet-scented Cape Diosma. (*Small linear, hairy, alternate leaves, and clusters of white flowers at the ends of the branches.*)

3. **DIOSMA ericoides**. Heath-leaved Ethiopian Diosma. (*Small linear, spear-shaped leaves, convex underneath, and*

imbricated two ways, white flowers in clusters at the ends of the branches)

4. *DIOSMA ciliata*. Ciliated, or Eye lashed Æthiopian Diosma. (*Spear-shaped leaves, ciliated on the edges, and umbellate white flowers.*)

5. *DIOSMA lanceolata*. Spear-shaped leaved Æthiopian Diosma. (*Short, spear-shaped, entirely smooth leaves*)

6. *DIOSMA rubra*. Red flowering Æthiopian Diosma. (*Small linear, sharp-pointed, smooth, keel shaped leaves, placed two ways, and red flowers.*)

7. *DIOSMA uniflora*. Uniflorous Æthiopian Diosma. (*Oval oblong leaves, and terminate red flowers, singly.*)

8. *DIOSMA patchella*. Handsome African Diosma. (*Small, oval obtuse, or nated, glandular leaves, and axillary blue flowers in pairs*)

They all flower ornamentally in summer, continue a long time in beauty, making a handsome appearance, and mostly diffuse a fragrant odour; and are very desirable furniture for improving the collection of the green-house exotics; retaining them in pots of light rich earth, and managed as other shrubby exotics of the green house.

They are propagated by cuttings of the young shoots in spring and summer, assisted by a hot bed; and by layers of the young branches; likewise by seed.

DRACOCEPHALUM, (DRAGON'S HEAD.) Balm of Gilead. (*Didynamia gymnospermia.*)

It comprises for the green-house a noted herbaceous-under-shrubby ever-green, rising with slender, upright-square, perennial green stalks, compound three or five-lobed sawed leaves, of a balsamic fragrance; and short spikes of small ringent blue flowers, having tubular cups, a monopetalous grinning corolla, two long and two short stamina, four-parted germen, one style, and four naked seeds.

The species is,

DRACOCEPHALUM canariense. Canary Balm Scented Dracocephalum, called Balm of Gilead. (*Compound leaves, and flowers growing in spikes.*)

This plant being retained in pots, in order to move to the shelter of a green-house, or garden frame, in winter, remains in stalk and leaf the year round; and is easily propagated by seed, and cuttings; sow the seed in pots

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of light earth, in autumn or spring, a quarter of an inch deep, giving shelter in cold weather; and cuttings of the stalks and branches in spring and summer, planted several in pots, and giving shade and water, readily grow.

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EBENUS. EBONY. (*Diadelpbia decandria.*)

It is a handsome, hoary, ever-green, flowering shrub, of moderate growth, adorned with five-lobed fingered hoary leaves, and the branches terminated by thick spikes of large papilionaceous purple flowers, with five-parted cups, a corolla composed of a roundish standard and wings, and short keel, ten diadelphous stamina, oblong germen, one style, and oval pods, containing kidney-shaped seeds.

The species is

EBENUS cretica. Cretan Ebony.

This shrub makes a conspicuous variety, demands a place in every curious collection, and is propagated by seed, sowed in autumn or spring, in pots of light earth, and defended under glasses from inclement weather; or if plunged in a hot bed in the spring, it will facilitate their germination.

ELEPHANTOPUS. ELEPHANT'S FOOT. (*Syngenia polygamia segregata*)

This genus comprehends two herbaceous perennials, with fibrous roots, oblong and oval leaves, and upright annual stalks a foot high, terminated by heads of compound purple flowers, having a four-leaved general involucre, including many tubulous, tongue-shaped, five-parted florets, five stamina, and one style, and single seeds inclosed in the calix.

The species in our gardens are,

1. **ELEPHANTOPUS scabror** Rough-leaved Indian Elephantopus. (*Oblong rough leaves.*)

2. **ELEPHANTOPUS tomentosa.** Tomentose-leaved American Elephantopus. (*Oval downy leaves.*)

Keep them in pots of light rich earth, and in winter place them in a warm sunny part of the green house, and in a sheltered situation in the open air in summer, when they will

flower in July; and are propagated by seed, in the spring, forwarded in a hot-bed; and by occasional root off-sets, particularly the first sort.

EMPETRUM, (*Empetrum*) BLACK BERRIED HEATH, or CROW BERRY. (*Diœcia triandria.*)

It furnishes for this place, a low, undershrubby, upright exotic, closely garnished with very small leaves, and small male and female flowers, on separate plants, having three-leaved cups, three oblong petals, three stamina, and depressed germen, crowned by nine stigmas, succeeding to a round berry, with nine seeds.

The species for the green-house is,

EMPETRUM *album*. White berried Portugal Empetrum. (*Erect stalks, small linear leaves, and white berries.*)

It forms a pretty variety in the front row of green-house plants; and is propagated by sowing the berries in pots, in autumn or spring; and by slips of the young shoots in summer.

ERICA. HEATH. (*Oëandria monogynia.*)

This genus affords some low shrubby exotics to encrease the green-house variety, adorned with very small leaves, by threes, fours, and fives, and numerous small quadrifid flowers along the upper part of the branches, having a four-leaved coloured calix, a swelling four-parted corolla, eight stamina, and one style, succeeded by a round quadrilocular capsule, with small seeds.

There are many species, the most noted are,

1. ERICA *scoparia*. Montpellier Beesom Heath. (*White branches, ternate spreading leaves, and bell-shaped corolla.*)

2. ERICA *triflora*. Three-flowered Æthiopian Heath. (*Ternate leaves, and triphyllous peduncles, supporting three globular flowers.*)

3. ERICA *tubiflora*. Tubulous-flowered Æthiopian Heath. (*Quaternate ciliated leaves, and tubulous, incurved, cylindric, downy flowers.*)

4. ERICA *coccinea*. Scarlet flowering Æthiopian Heath. (*Smooth leaves, by threes, and quadrifid scarlet flowers, with imbricated cups.*)

5. ERICA *viridi-purpurea*. Green and purple Portugal Heath. (*Leaves by threes, longish oval greenish-purple flowers in corymbus clusters.*)

6. *ERICA curviflora*. Crooked flowered Æthiopian Heath. (*Smooth leaves, by threes, and cylindric, curved, solitary flowers.*)

7. *ERICA pentaphylla*. Five-leaved Æthiopian Heath (*Smooth leaves, by fives, and oval, acute flowers.*)

8. *ERICA arborea*. Tree African Heath. (*A tree like, downy stalk, spreading leaves, by fours, and long bell-shaped flowers.*)

These plants, being planted in pots of light earth, and dispersed among the green-house plants, they make an agreeable variety; and are propagated, some by bottom off-sets, suckers, and by layers of the young shoots; also by slips and cuttings, in pots plunged in a hot-bed, or covered close with a hand glass.

ERIOCEPHALUS (*Eriocephalus*) *Syngenesia polygamia necessaria.*)

This genus consists of two shrubby African ever-greens, growing four or five feet high, adorned with divided and narrow, entire, downy leaves; and the branches terminated by clusters of compound radiated white and reddish flowers, having a scaly general cup, including many funnel-shaped hermaphrodite florets in the disk, and flat female ones in the radius, five stamina, and one style, succeeded by a naked seed to each floret. Not ripening in England.

The species are,

ERIOCEPHALUS Africana. African Eriocephalus. (*Woolly leaves, divided in three or five parts, and flowers growing in a corymbus.*)

ERIOCEPHALUS racemosa. Racemose flowered Cape Eriocephalus. (*Linear, narrow, silvery, entire leaves, and flowers disposed in racemous clusters*)

ERIOCEPHALUS pectinata. Pectinated leaved Eriocephalus.

These shrubs make a good variety at all seasons, and flower annually in autumn; the flowers having a white radius, and purple disk, exhibiting a conspicuous appearance.

They are propagated by cuttings of the young shoots in spring and summer, in pots plunged in a bark or dung hot-bed.

EUPHORBIA, (*Euphorbia.*) **SPURGE**. Burning Thorny Plant. (*Dodecandria trigynia.*)

It furnishes shrubby herbaceous succulent exotics, of singularly strange growths, and different structures, rising with thick succulent durable stalks and branches, growing irregularly, some from three or four, to five or six feet high, or more, others scarcely above six, eight, or ten or twelve inches, mostly defended with thorns; some having leaves, others none, or soon fall off, and scarlet, whitish, and red flowers at the ends of the branches, having bellied, four or five-parted rough cups, a corolla of four or five thick truncated petals, about twelve stamina, a three-cornered germen, with three styles, succeeded by roundish trilocular capsules, with three roundish seeds.

The species of this genus are very considerable; the green-house kinds are,

1. EUPHORBIA *Tithymaloides*, (*Tithymaloides*,) Myrtle-leaved Spurge. (Tall shrubby succulent spineless stalks, oval, acute leaves, alternately on two sides of the branches, and scarlet flowers.)

Varieties.

Laurel-leaved.

Variiegated-leaved.

2. EUPHORBIA *Caput Medusa* (*Caput Medusa*,) Medusa's Head Euphorbia. (Low, thick, roundish, succulent, tuberculated, scaly, spineless stalks and branches, twining round one another, appearing like many-headed serpents, and narrow deciduous leaves.)

Varieties.

Erect leafless Medusa's Head, with round branches, and tetragoneous tubercles.

Dwarf trailing Medusa's Head, with tuberous stalks, and narrow single branches.

Low-spreading Medusa's Head, with numerous single branches, and leaves soon falling off.

Twin-branching Medusa's Head, with smooth, oblong whitish stalks, and branches in pairs.

3. EUPHORBIA *Mauritania*. Mauritanian Tithymalus, or Spurge. (Almost leafless and spineless, very slender, feeble, shrubby stalks, and alternate leaves.)

4. EUPHORBIA *viminalis*. Twiggy-stalked climbing African Spurge. (Spineless and leafless, long, slender, twining, climbing, shrubby stalks.)

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5. *EUPHORBIA dendroides*. Branchy Cretan Tree Spurge. (Shrubby, tree-like, upright, branchy stalks, oblong, pointed leaves, multifid forked umbels of yellow flowers.)

6. *EUPHORBIA Characias* (*Characias*.) Red-stalked French Spurge. (Shrubby, upright stalks, spear-shaped entire leaves, and multifid umbels, or yellow flowers.)

7. *EUPHORBIA coralloides*. Coral-stalked Sicilian Spurge. (Shrubby, coral coloured stalks, spear-shaped leaves, and five parted and trifid umbels.)

8. *EUPHORBIA spinosa*. Spinose Cretan Euphorbia. (Shrubby stalks, oblong, entire leaves, and almost five-parted umbels, with simple oval involucrems.)

9. *EUPHORBIA amygdaloides*. Almond-leaved Wood Spurge. (Shrubby stalks, obtuse leaves, multifid, forked umbels, and orbicular perforated involucrems.)

Variety.

Varietata-leaved, Almond leaved Spurge.

These plants being mostly succulent, should be planted in pots of light, dry, sandy, rubbishy compost, and disposed among the green-house collection, where they will afford a very entertaining variety at all times of the year, by the singular different structures of their succulent durable stalks and branches; they should have a warm sunny situation in the green house, from the beginning of October till June, giving very moderate waterings; and in summer may be placed in the open air, in a sheltered warm place, and watered in dry weather.

The *Euphorbia amygdaloides* grows in woods in England, and is hardy enough to live in the open ground; but the variegated sort particularly, is retained also as a green-house plant.

Most of these plants are replete with a milky acrid juice that will burn linen, and blister the hand, or any part of the skin, when applied.

Some of the most succulent kinds being so replete with humidity, that cuttings thereof, though kept out of the ground several months, will retain their vegetative faculties.

Most of the sorts are propagated by planting cuttings of their branches in summer, previously laying the cuttings to heal over the cut part, then planted in pots, which either plunge in a hot-bed to forward them, or place under glasses.

F.

FERRARIA (*Ferraria*) CAPE NARCISSUS. (*Gynandria trigynia*.)

This genus consists of one tuberous rooted, herbaceous flowery perennial of Africa, rising with an upright, thick, annual stalk, half a yard high, adorned with keel-shaped leaves, and terminated by a large scabbard protruding greenish and dark purple flowers, of six oblong waved or curled petals, three gynandrious stamina, roundish trigynous germen, three styles, and three-cornered trilocular capsules, with round seeds.

The species are,

FERRARIA undulata. Waved-flowered Cape Ferrara.

Plant the roots in pots of light rich earth, when their leaves and flower-stalk decays; and may be propagated by off sets from the root.

FRITILLARIA, (*Fritillaria*) CROWN IMPERIAL. (*Hexandria monogynia*.)

It furnishes for the green-house, a tuberous-rooted herbaceous flowering perennial, rising with several broadish, obtuse leaves, and a flower-stalk half a foot high, terminated by bell-shaped, liliaceous flowers, without cups, but six oblong petals, six stamina, one style, and roundish seed capsule.

The species is,

FRITILLARIA regia. Royal Crown (*Corona regalis*) or Cape Fritillaria. (*Crenated leaves, and stalks naked below, and crowned by a bushy racemous of flowers.*)

Plant the roots in Autumn, in pots of light earth, kept in the green-house in winter, and they will flower ornamentally in April, and in June, when the stalk and leaves decay; and may propagate them by off-sets of the root.

G.

GALENIA. (*Galenia*) (*Octandria Digynia*.)

It admits of one species, a shrubby African exotic of four or five feet growth, furnished with very narrow

rose-

rosemary-shaped leaves, and apetalous, octandrious flowers in panicles, having quadrifid cups, no petals, eight stamina, a roundish germen, with two styles, and a roundish bilocular, two-seeded capsule.

The species is,

GALENIA Africana. African Rosemary-leaved Galenia.

This shrub effects an eligible variety among the greenhouse exotics, and is propagated by cuttings and layers, in spring and summer.

GARDENIA, (*Gardenia*.) CAPE JASMINE. (*Pentandria monogynia*.)

Consists of a most elegant ever-green flowering shrub, a native of the Cape of Good Hope, singularly beautiful floriferous and fragrant, growing five or six feet high. decorated with largish spear-shaped, shining, opposite leaves, and handsome, large, close-fitting, odoriferous white flowers, disposed along the sides and ends of the branches, having pentangular, acutely five parted, persistent cups, a large tubulous, salver-shaped corolla, divided above in five oval segments, with five stamina, a germen under the corolla, single style, and a bilobated many-seeded berry.

The species is,

GARDENIA florida. Flowery Gardenia, or Cape Jasmine. (*Spear-shaped, entire leaves, placed opposite.*)

Varieties.

Double flowered, having several orders of petals.

Single flowered, having only one tubulous petal.

This remarkable fine shrub demands universal esteem, both as a beautiful ever-green, and for the elegance and fragrance of its mostly semi-double flowers, appearing numerously in July and August; and is easily raised, by cuttings in spring and summer, potted and plunged in a bark or dung hot-bed; also by layers of the lower young branches.

GENISTA. (*Genista*) DWARF BROOM. (*Biladelphia decandria*.)

For the Green house there is one shrubby evergreen-*Genista*, growing six or seven feet high, with angular branches, ornamented with trifoliate hairy leaves, and papilionaceous yellow flowers, in spikes. See the *Hardy Trees*.

The species is,

GENISTA canariensis. Canary Broom, or Evergreen
Canary Cytisus. (*Angular branches, and trifoliate downy
leaves.*)

Varieties,

Yellow flowered.

White flowered.

This being an ornamental evergreen, and very floriferous in May and June, merits a place in all good collections; and is raised plentifully by seed, sowed in March and April; or in pots, and forwarded in a hot bed.

GERANIUM, (*Geranium*) CRANE'S BILL. (*Monodelphia decandria.*)

This genus furnishes for the green-house a grand collection of African exotics, consisting of shrubby, under-shrubby, and herbaceous evergreen, and very floriferous perennials, growing mostly with irregular branching stalks, and succulent soft shoots, from half a yard, to six or eight feet high, or more; and some of prostrate, trailing growth, adorned with large, roundish, angulated, and lobated, divided and pinnatifid soft leaves, and pentapetalous red, purple, scarlet, and white flowers, along the sides and top of the branches, mostly in clusters, having cups of five oval leaves, a corolla of five ovalish, or heart-shaped patent petals, ten monadelphious stamina, topped with versatile anthera; a five-cornered germen, long, persistent cut style, crowned by five reflexed stigmas, succeeding to a long quinquelocular seed vessel, like a crane's bill, or beak, pregnant with five seeds, ripening in England.

The green-house *Geranium* consists of shrubby and herbaceous exotics, viz.

Shrubby kinds,

Rise mostly with irregular durable stalks and branches, shooting out near the bottom into bushy heads, with thickish, tender shoots, somewhat succulent and herbaceous, while young, becoming woody as they grow older: furnished always with broad, simple, odoriferous leaves, some roundish, ovalish, angular, heart-shaped, kidney shaped, and some intire, and some divided or lobed, and reddish, purple, and scarlet flowers in clusters, in summer and autumn.

The

The species are,

1. *GERANIUM zonale*. Common Zone-marked, or Horsehoe Geranium. (*Shrubby stalk, roundish, heart-formed, indented leaves, marked with a zonal circle, shaped like a horsehoe.*)

Varieties,

Common green leaved.

Variegated leaved, very beautiful.

Silver edged leaved.

Silver striped leaved.

Gold striped leaved.

Red flowered.

Purple flowered.

Scarlet flowered.

2. *GERANIUM fulgidum*. Fulgid, or flaming red flowered Geranium. (*Shrubby, fleshy stalks, divided, three lobed cut leaves, the middle lobes largest, and flame-scarlet flowers, in umbels.*)

3. *GERANIUM inquinans*. Downy-leaved scarlet Geranium. (*Shrubby stalk, thick orbicular-kidney-shaped, crenated, downy leaves, and bright scarlet flowers.*)

Varieties,

Deep scarlet flowered.

4. *GERANIUM cucullatum*. Hooded, or hollow-leaved Geranium. (*Shrubby stalk, large roundish, indented, soft leaves, hollowed like a hood, and purple flowers, angular-hooded leaves.*)

5. *GERANIUM capitatum*. Capitated Rose-scented Geranium. (*Shrubby stalks, roundish lobated, waved, hairy leaves, and capitated or beaded umbels of purple flowers.*)

6. *GERANIUM papilionaceum*. Papilionaceous, or Butterfly Geranium. (*Shrubby stalks, large angular, rough leaves, and butterfly-shaped flowers.*)

7. *GERANIUM gibbosum*. Gibbous, or Gouty-stalked Geranium. (*Shrubby, fleshy stalk, with gibbous, or swollen joints, and almost pinnated, fleshy, opposite, leaves.*)

8. *GERANIUM tetulinum*. Birch-leaved Geranium. (*Shrubby stalks, and oval, unequally sawed, plane leaves.*)

9. *GERANIUM vitifolium*. Vine-leaved Balm-scented Geranium. (*Shrubby stalks, lobated, ascending downy leaves, and blue flowers.*) - Variegated leaved.

10. *GERANIUM carnosum*. Carnose, or fleshy stalked Geranium. (*Shrubby stalks, with fleshy, gibbous joints, pinnatifid, laciniated leaves, and linear petals.*)

11. *GERANIUM scabrum*. Rough-leaved Geranium. (*Shrubby stalks, wedge-shaped, trifid and multifid rough leaves.*)

12. *GERANIUM acetosum*. Sorrel-tasted Geranium. (*Shrubby stalks, ob-oval, crenated, fleshy, smooth, sorrel-tasted leaves.*)

Varieties.

Pale red flowered.

Scarlet flowered.

13. *GERANIUM peltatum*. Peltated five lobed, or Ivy-leaved Geranium. (*Shrubby slender stalks, roundish five-lobed, fleshy, smooth peltated leaves.*)

Herbaceous kinds.

These sorts rise, some with herbaceous tender stalks, both trailing and erect, garnished with leaves, and some with the leaves rising immediately from the root, also the flower stalks.

14. *GERANIUM alchimiloides*. Ladies-mantle-leaved Geranium. (*Herbaceous trailing stalks, orbicular palmated cut hairy leaves.*)

15. *GERANIUM proffularoides*. Gooseberry-leaved Geranium. (*Herbaceous smooth prostrate stalks, roundish heart-shaped, lobated, crenated leaves.*)

16. *GERANIUM odoratissimum*. Odoriferous-leaved Geranium. (*Short fleshy stalks, with longish herbaceous branches, and heart-shaped, soft, downy leaves.*)

17. *GERANIUM althæoides*. Marsh-Mallow-leaved Geranium. (*Herbaceous prostrate stalks, heart-shaped oval, sinuated plaited, crenated leaves.*)

18. *GERANIUM alceoides*. Mallow-leaved Geranium. (*Herbaceous hairy stalks, ternate, deeply-cut three-parted leaves.*)

19. *GERANIUM lobatum*. Lobated vine-leaved Geranium. (*Truncated stalk, lobated, crenated leaves, flower-stalks, almost from the root, and compound umbels.*)

Varieties.

(*Hirsutum*) Hairy, lobated vine-leaved Geranium. (*Turbinated root, oval-lobated, laciniated, rough leaves.*)

(*Pin.*

(*Pinnatifidum*) Pinnatifid, lobated Geranium. (*Turbinated root, doubly pinnatifid leaves, with fine linear lacinia, or lobes.*)

20. GERANIUM *triste*. Dull-flowered, night-smelling Geranium. (*Round tuberous root, pinnatifid, prostrate, finely cut leaves, and a bifid flowerstalk from the root, having one leaf, and night smelling pal-greenish-yellow flowers.*)

21 GERANIUM *tabulare*. Tabulare-leaved Geranium. (*Almost herbaceous stalks, heart-shaped, nearly lobated, crenated, and sub-ciliated, smooth leaves, inscribed with a purple circle.*)

22. GERANIUM *prolificum*. Prolific, or variable Geranium. (*Tuberous root, various-formed, many-parted leaves, and flower-stalks from the root, topped by compound umbels of flowers, red, purple, scarlet, and white in the different Varieties.*)

Varieties.

(*Proliferum*) Divided, pinnated-leaved prolific Geranium. (*Turbinated root, pinnated leaves, with divided trifid, and five parted linear lobes.*)

(*Pinnatum*) Pinnated, entire-leaved, prolific Geranium. (*Pinnated leaves, with oval lobes.*)

(*Auritum*) Aurited, or Eared-leaved prolific Geranium: (*Oblong, entire, and three parted leaves, eared at the base.*)

(*Longifolium*) Long-leaved, prolific Geranium. (*Tuberous root, oblong, spear-shaped, simple leaves.*)

(*Oxaloides*) Wood-forrel leaved, prolific Geranium. (*Turnep shaped root, and oval halbert-shaped fleshy leaves.*)

23. GERANIUM *myrrhifolium*. Myrrh-leaved Geranium. (*Herbaceous stalks, doubly pinnated leaves, the lower ones heart-shaped lobated.*)

All the sorts of Geraniums are eminent furniture for adorning the green-house collection, but more particularly the shrubby kinds, which grow with large bushy heads, closely decorated with their large, roundish, and angulated and lobated foliage the year round, and flower very abundantly and ornamentally all summer, and frequently in autumn, winter, and spring; the herbaceous kinds have also a peculiar share of merit, as fine floriferous plants, producing a profusion of ornamental flowers, great part of summer, &c. many of which, as well as the shrubby kinds, are succeeded by ripe seeds in Autumn.

They

They must all be kept in pots of light rich earth, in order to have the shelter of a green-house, glass-case, or deep garden frame, under glasses, in winter; generally in the green-house place them in the front rows to have plenty of sun and free air, in mild weather, to prevent the shoots drawing up weak, as being of a free and succulent growth; and must be but moderately watered once a week, or ten or twelve days in winter, as too much humidity in this season is apt to cause a mouldiness in the young shoots: but in summer, when placed in the open air, give plenty of water in dry weather.

All the shrubby kinds are propagated with expedition and abundance, by cuttings of the year old shoots, also by seed.

Plant the cuttings any time from March or April till July, in pots for the early spring planting, and may be greatly forwarded in rooting if plunged in a hot bed or bark bed, &c. though they will also root freely without heat; and in May or June cuttings planted in a shady border, readily emit roots.

Seed sowed in April, in a bed of rich earth, or in pots or boxes of light mould, a quarter of an inch deep, they will soon come up; to have them forwarder, you may place the pots in a hot bed; and in either method, let the seedlings, when two or three inches high, be pricked in separate pots.

The herbaceous kinds may also be raised plentifully from seed, as above; likewise by slipping the root off-sets in spring or autumn.

GLADIOLUS, Gladiol. SWORD LILY, or CORN FLAG. (*Triandria monogynia.*)

Consists of herbaceous, flowery perennials of Africa, with round bulbo-tuberous roots, sending up long, narrow, sword-shaped, and linear leaves, embracing one another; and between them upright slender flower-stalks, a foot or two high, terminated by hexapetalous, liliaceous, reddish, and purple flowers, each protruded from a sheath or spathaceous cup, a corolla of six oblong petals, or segments united at the base, three inclining together, and three expanded; three stamina, germen under the corolla, supporting one style, and oblong, swelling, trigonal capsule, with roundish seeds, sometimes ripening.

The

The species are,

1. *GLADIOLUS tristis*. Sad flowered Æthiopian Gladiole. (Long, narrow, linear, cruciate, almost quadrangular leaves and capanulate corolla, of a dull purple and whitish yellow colour.)

2. *GLADIOLUS angustus*. Narrow-leaved African Gladiole. (Very narrow grassy leaves, and flowers placed at a distance, with the tube longer than the upper Part.) Purple flowers.

3. *GLADIOLUS spicatus*. Spiked flowered African Gladiole. (Linear leaves, simple stalks, and the flowers in a spike.)

4. *GLADIOLUS plicatus*. Plaited, or lapped sword-leaved Gladiole. (Lateral stalks, sword-shaped, plaited, hairy leaves, and regular corolla.)

5. *GLADIOLUS ramosa*. Branching African Gladiole. (Branching stalk, and linear leaves.)

6. *GLADIOLUS capitatus*. Capitated, or Headed-flowered African Gladiole. (Tuberous root, branching stalk, and blue flowers in heads.)

They have perennial, bulbo-tuberous roots, producing leaves and flower stalks annually, the leaves frequently rising in autumn, continuing all winter, and the flower stalks rise in the spring, producing flowers in May or June, and the leaves and stalks decay soon after.

Plant the roots in pots of light earth, in July and August, to be sheltered in a green-house, or garden-frame in winter, and may propagate them by root off-sets when the leaves decay, and by seeds sowed in pots of light earth, defended in winter.

GNAPHALIUM, CUDWEED. Immortal Flower, or Goldy Locks. (*Syngenesia polygamia superflua*.)

For the green-house there are some undershrubby and herbaceous flowery perennials, rising with durable stalks, and branches from half a foot to three or four high; furnished with narrow spear-shaped, and oblong hoary leaves, and the branches terminated by corymbus clusters of compound yellow flowers, having a roundish imbricated general cup, including many funnel-shaped, hermaphrodite florets, and female ones devoid of petals, five stamina and one style, with a single seed to each floret, crowned with down.

There

There are many species; the most noted sorts are,

1. *GNAPHALIUM orientale*. Oriental Cudweed, or Immortal Flower. (Low undershrubby stalks, with branchy beads, linear spear-shaped sessile woolly leaves, and a compound corymbus of golden flowers, which being gathered, retain their beauty many years.)

Varieties.

Common Dwarf Oriental Immortal flower.

Shrubby narrow-leaved Immortal flower, with stalks two or three feet high.

Narrow-leaved, with silvery flowers.

Broad-leaved, a foot and half high.

2. *GNAPHALIUM odoratissimum*. Odoriferous Immortal Flower. (Herbaceous-undershrubby, durable stalks, oblong, obtuse, decurrent, plane hoary leaves, and a golden corymbus.)

3. *GNAPHALIUM arboreum*. Tree Immortal Flower of the Cape. (Shrubby stalks, linear, sessile, smooth, revolute leaves, and round beads of golden flowers.)

4. *GNAPHALIUM niveum*. Snowy Æthiopian Immortal Flower. (Shrubby, very branchy stalks, thread shaped, almost imbricated downy leaves and a silvery head of flowers.)

5. *GNAPHALIUM cymosum*. Cymose flowered African *Gnaphalium*. (Herbaceous-undershrubby stalks, branchy below, and spear-shaped, trinervous, smooth leaves, and terminate, cymose clusters of golden flowers.)

6. *GNAPHALIUM rutilans*. Reddish-flowered African *Gnaphalium*. (Herbaceous-undershrubby stalks, branchy below, spear-shaped leaves, and dicomponnd terminal umbels, of reddish golden flowers.)

7. *GNAPHALIUM patulum*. Spreading Æthiopian *Gnaphalium*. (Shrubby stalks, with spreading branches, spatule-shaped amplexicaule leaves, and an aggregate corymbus.)

8. *GNAPHALIUM Stæchas* (*Stæchas*.) French Lavender-leaved Immortal Flower. (Long, slender, whitish branches, linear leaves, and a compound corymbus of yellow flowers.)

These plants are mostly of a low bushy growth, with abiding stalks and branches, producing numerous conspicuous heads of flowers in May, June, and July, continuing in succession all summer, exhibiting a very entertaining variety in the green-house collection, the last sort also in a warm part of the shrubbery.

Retain.

Retain them in pots of light earth, and allow them shelter in the front part of the green-house in winter, or in a garden-frame, and are raised from cuttings and slips of the branches in spring and summer, planted in pots; or in summer in a shady border, or under a hand-glass; or may all be more forwarded in a hot-bed.

GNIDIA (*Gnidia*.) (*Ociantria monogynia*.)

Comprehends shrubby exotics of Africa, growing three or four feet high, furnished with narrow awl-shaped, spear-shaped, and ovalish leaves, and tubular octandrous, white, and blue flowers, terminating the branches in clusters, having a long funnel-shaped, tubulous cup and corolla, divided in four at top; eight stamina, oval germs, with a slender style; and one oval-pointed seed retained in the calix.

The species are,

1. **GNIDIA pinifolia**. Pine tree-leaved *Gnidia*. (*Linear awl-shaped, scattered leaves, and aggregate clusters of flowers in whorls.*)

Varieties.

Silvery-flowered.

Blue-flowered.

2. **GNIDIA oppositifolia**. Opposite-leaved *Gnidia*. (*Spear-shaped, opposite smooth leaves, and terminal clusters of flowers.*)

3. **GNIDIA tomentosa**. Downy, alternate-leaved *Gnidia*. (*Oval, spear-shaped, downy leaves, and terminate round heads of flowers.*)

Retain them in pots of rich light earth; and may propagate them by cuttings, assisted by a hot-bed, and covered close with a hand-glass.

GORTERIA (*Gorteria*.) (*Syngenesia polygamia fruticosa*.)

This genus is composed of low, undershrubby, procumbent, and upright plants, ornamented with spear-shaped-pennatifid, and entire leaves, and compound, radiated, orange coloured and yellow flowers, terminating the branches; having a stiff scaly general cup, enclosing funnel-shaped florets in the middle, and flat ones in the circumference; five stamina, one style, and one seed.

The species are,

1. **GORTERIA rigens**. Stiff-leaved trailing *Gorteria* of the Cape. (*Spreading depressed stalks, spear-shaped pinnatifid*)

tifid leaves, and footstalks with one large orange coloured flower.)

2. *GORTERIA fruticosa*. Shrubby Æthiopian Gorteria. (*Shrubby stalks, spear-shaped, entire, indented-spinous leaves, hoary underneath.*)

3. *GORTERIA ciliaris*. Ciliated-leaved Æthiopian Gorteria. (*Oblong ciliated leaves, imbricated two ways, ending in spines.*)

4. *GORTERIA squarrosa*. Rough Gorteria of the Cape. (*Spear shaped, running, recurved, ciliated-spinose leaves.*)

The first two species are the most noted in the English gardens, but they all serve to improve the variety; flower in May, June, and July, and are propagated by cuttings in summer, in a hot-bed, or covered with bell-glasses.

GREWIA (Grewia) (Gynandria polyandria.)

Is an African exotic of the deciduous shrubby kind, of five or six feet growth, adorned with oval leaves and purple flowers, composed of five-leaved coloured cups, five spear-shaped petals, many gynandrious stamina, a roundish germen, slender style, and a four-lobed berry, with four seeds.

The green-house species is,

GREWIA occidentalis. Occidental Elm-leaved Grewia. (*Ob-oval, acute, crenated leaves, and singly-placed flowers.*)

It is propagated by cuttings and layers in the spring, assisting the cuttings with a hot-bed.

H.

HÆMANTHUS, BLOOD FLOWER. (*Hexandria monogynia.*)

Consists of herbaceous flowery perennials, with bulbous roots, sending up long tongue-shaped and carinated leaves, and upright deciduous flower-stalks, from six to ten or twelve inches high, surmounted by a large cluster of six-parted red flowers, protruded from a large umbel-shaped, six leaved persistent involucre, each flower consisting of a monoretalous, erect liliaceous corolla, divided in six parts; six stamina, one style, and a roundish three-seeded berry.

The

The green-house species comprise the following exotics from the Cape of Good Hope.

1. *HÆMANTHUS coccineus*. Scarlet Cape Hæmanthus, or Blood Flower. (*Tongue-shaped, plane, smooth spreading leaves, and blood-red flowers.*)

2. *HÆMANTHUS ciliaris*. Ciliated-leaved Cape Hæmanthus. (*Tongue-shaped, ciliated, spreading leaves, and pale red flowers.*)

3. *HÆMANTHUS carinatus*. Carinated, or keel-shaped leaved Hæmanthus. (*Narrow, linear, keel-shaped leaves, and red flowers.*)

These having all bulbous roots, should procure the bulbs when their leaves decay in summer, and plant them in pots in July, August, or September; they will send up leaves remain all winter, of a fine appearance, and flower-stalks in the spring, flowering ornamentally in May, June, and July.

Place them in a warm sunny part of the green-house in winter, and propagate them by off-sets of the roots; also by seeds in pots, plunged in a bark, or dung hot-bed.

HALLERIA, AFRICAN FLY HONEYSUCKLE. (*Didynamia angiospermia.*)

Consists of an African ever-green shrub, growing with a branchy head five or six feet high, garnished with oval shining leaves, and small tubulous grinning red flowers along the sides of the branches, having three-parted cups, a monopetalous, ringent corolla, four-parted above; two long, and two short stamina, oval germen, single style, and a roundish berry, with two hard seeds.

There is but one species, viz.

HALLERIA lucida. Shining-leaved Æthiopian Halleria. (*Oval, serrated, shining leaves.*)

Keep it always in pots among the green-house exotics, in which it will exhibit an excellent variety the year round, and is propagated by seeds and cuttings, having the assistance of a hot-bed.

HELIOTROPIMUM, TURNSOLE. (*Pentandria monogynia.*)

It furnishes for the green-house two South American exotics of the shrub kind, from half a yard, to two or three feet high, decorated with linear, spear-shaped, and ovalish leaves, and many five-parted small blue flowers, termi-

terminating the branches in single and aggregate spikes having one-leaved five-parted cups, a tubular corolla, divided in five above, five stamina, four germina, with one style, and oval seeds, lodged in the permanent calix.

The species are.

HELIOTROPIUM fruticosum. Shrubby Jamaica Turnsole. (*Linear-spear-shaped, hairy leaves, and solitary sessile spikes.*)

2. **HELIOTROPIUM Peruviana.** Peruvian Sweet-scented Turnsole. (*Oval-spear-shaped leaves, and numerous spikes in an aggregate corymbus of blue flowers.*)

They grow naturally in Jamaica and Peru, hot climates yet they both succeed tolerably with the culture of green-house plants; and the second sort particularly, exhibiting a pretty variety in its numerous blue spikes great part of the year, furnishing ripe seeds, by which it may be raised in the spring; also both the sorts by cuttings, in spring and summer, forwarded in a hot-bed, both seeds and cuttings.

HERMANNIA. (*Hermannia*) (*Monadelphica pentandra.*)

It comprehends a desirable collection of bushy ever-green flowering shrubs, growing with branchy, bushy heads from half a yard to five or six feet high, furnished with small spear-shaped and pinnatifid leaves, and pentapetalous yellow flowers, numerous in loose spikes, and clusters along the sides of the branches, having monophylloous five-pointed cups, a corolla of five petals twisted below but broad and spreading above, five monadelphous stamens roundish pentangular germen, with an awl-shaped style and a roundish quinquangular capsule, with many seeds.

The Species are,

1. **HERMANNIA lavendulifolia.** Lavender-leaved Hermannia. (*Small spear-shaped, obtuse, entire leaves.*)

2. **HERMANNIA althæaefolia.** Althæa-leaved Hermannia. (*Oval, crenate, plaited, woolly leaves.*)

3. **HERMANNIA alnifolia.** Alder leaved Hermannia. (*Wedge-shaped, crenated, emarginated, plaited leaves.*)

4. **HERMANNIA grossularifolia.** Gooseberry-leaved Hermannia. (*Ovalish-spear-shaped, pinnatifid leaves.*)

5. **HERMANNIA trifoliata.** Trifoliate Hermannia. (*Trifoliate, sessile leaves, with retuse plaited lobes.*)

6. *HERMANNIA pinnata* Pinnatifid *Hermannia*. (*Leaves divided in three, with the middle lobe pinnatifid.*)

These are all exotics from the Cape of Good Hope, &c. and must be retained in pots, and disposed among the green-house plants, where they will afford a very eligible variety all the year as ever-greens, and produce a profusion of yellow and golden flowers, in numerous spikes and clusters, very ornamentally, from April to July or August; in some sorts, succeeded by seeds, by which they may be raised in a hot-bed; and all of them propagated by cuttings, in spring and summer.

HYOSCYAMUS (HOG-BEAN) or HENBANE. (*Pentandria monogynia.*)

An herbaceous, fibrous-rooted, flowering perennial, rising with feeble biennial stalks, roundish leaves, and large yellow flowers, having five-parted cups, a funnel-shaped corolla, spreading above in five obtuse parts, five stamina, roundish germen, and slender style, succeeded by an oval capsule, opening with a lid for the dispersion of numerous small seeds.

The species for this place is,

HYOSCYAMUS aureus. Golden Cretan Henbane. (*Roundish, gnarred-dentated acute leaves, standing on footstalks, and with footstalked golden yellow flowers.*)

It flowers ornamentally several months in summer, requires shelter of a green-house, or garden frame in Winter, and is propagated by cuttings, in May, June, and July.

HYPERICUM ST. JOHN'S-WORT. (*Polyadelphia polyandria.*)

It furnishes for the green-house, some eminent shrubby exotics, growing two or three feet high, with reddish and purplish branches, adorned with small oval, oblong, and spear-shaped simple leaves, and large spreading yellow flowers, terminating the branches singly and in clusters, having five-lobed cups, five oval spreading petals, numerous polyadelphious stamina, from five to one style, and a roundish capsule, with as many cells, and numerous seeds.

The species are,

1. *HYPERICUM balearicum*. Balearican or Majorca warted *Hypericum*. (*Shrubby stalk, warted scarified, reddish branches, oval, waved, warted-edged leaves, and solitary flowers, with five styles.*)

HYPE-

2. *HYPERICUM monogynum*. Monogynous or One-styled Chinese Hypericum. (Oblong, smooth leaves, coloured cups, long stamina, and flowers in clusters, having one style.)

3. *HYPERICUM Lasianthus*. (*Lasianthus*) Lancet-leaved Surinam Hypericum. (Spear-shaped, sawed leaves, flowers, having five styles.)

These are very floriferous plants in summer, and frequently continue flowering great part of the year, making a conspicuous variety in the green-house collection; and are easily propagated in abundance, by layers and cuttings in spring and summer, assisting the cuttings in a hot-bed also by slipping the roots; and likewise by seed in March or April.

J.

JASMINUM, JASMINE TREE. (*Diandria monogynia*.)

Consists of some elegant ever-green flowering shrubs from India, of upright and trailing growth, rising from four or five to six or eight feet high, or more, adorned with pinnated and ternate or trifoliate leaves; and large tubulous red, white, and yellow flowers in bunches, having monophyllous cups, indented in five parts, a monopetalous corolla, tubulous below, spreading in five segments above, two stamina, roundish germen, one style and an oval bilocular two-seeded berry.

The green-house species are,

1. *JASMINUM grandiflorum*. Great flowered Malabar, or Catalonian Jasmine. (Shrubby, erect branched stalks, pinnated opposite leaves, and large flowers, bluish without, and white within.)

2. *JASMINUM odoratissimum*. Sweet-scented yellow Indian Jasmine. (Shrubby, erect branchy stalks, trifoliate branches, large trifoliate and pinnated alternate leaves, and bright yellow flowers.)

3. *JASMINUM azoricum*. Azorian white Jasmine. (Shrubby, long, slender, declining stalks and branches, trifoliate opposite leaves, and large white flowers.)

These shrubs mostly produce long, slender, green shoots, emitting numerous ornamental flowers, from July till the end of summer, effecting an excellent variety among the green-house exotics, where they must always be continued in pots of rich earth; and are propagated plenteously by layers, in spring and summer; also by cuttings, especially in pots plunged in a hot bed, and likewise by seed, in the spring, assisted as the cuttings; likewise sometimes by grafting or budding them upon stocks of the *Jasminum Vulgaris*, &c.

IBERIS, (Candy Tuft) TREE CANDY TUFT. (*Tetradynamia filiculosa*.)

Consists of three under-shrubby, very floriferous evergreens of diminutive bushy growth, from six or eight inches, to half a yard high, adorned with small linear and wedge-shaped leaves, and the branches terminated by numerous cruciform white flowers in umbels, having four-leaved deciduous cups, four oval cruciform petals, four longer and two short stamina, single style, and short-roundish compressed bilocular pod, with two seeds.

The species are,

1. *IBERIS sempervirens*. Ever-green shrubby Candy Tuft. (*Small linear, acute, entire leaves.*)
2. *IBERIS semperflorens*. Ever-flowering shrubby Candy Tuft. (*Wedge-shaped obtuse entire leaves.*)
3. *IBERIS saxatilis*. Saxatile Italian shrubby Iberis. (*Spear-shaped, linear, acute, fleshy, entire leaves.*)
4. *IBERIS Gibraltaria*. Gibraltar shrubby Iberis. (*Undershrubby stalks, leaves indented at top, and large flowers.*)

They are natives of the island of Candy, Sicily, Italia, Spain, &c. and retained here in pots, among the green-house exotics, particularly the first and second sorts, which effect a pretty variety in their numerous flowers, several months in summer and autumn; and the second sort frequently the year round; and are all easily propagated by slips and cuttings of their shoots in spring and summer.

ILLECEBRUM, (*Illecebrum*) MOUNTAIN KNOT GRASS. (*Pentandria monogynia*.)

It comprises some low, undershrubby perennials for variety, mostly of reclining growth, a foot or two long,

furnished with small ovalish leaves, and opetalous flowers, singly and in silvery heads, having five-leaved coloured cups, no petals, five stamina, one style, and a roundish pentangular, unilocular, one-seeded capsule.

The species of note are,

1. ILLECEBRUM *suffruticosum*. Undershrubby Spanish Illecebrum. (*Undershrubby procumbent stalks, and lateral solitary flowers.*)

2. ILLECEBRUM *Paronychia*. (*Paronychia*) Spanish Mountain Knot Grass. (*Procumbent stalks and oval shining silvery bractea surrounding the flowers.*)

3. ILLECEBRUM *capitatum*. Capitated Italian Illecebrum. (*Erectish stalks, and terminal heads of flowers, surrounded by shining silvery bractea.*)

Retain them in pots of light good earth, to have the shelter of a green-house or garden frame in Winter; it may be raised from seed sowed in April in common earth, or by cuttings of their shoots.

• JUSTICIA (*Justicia*) MALABAR NUT. (*Diandria monogynia.*)

For the green-house is one elegant ever-green of the shrub or moderate tree kind, growing twelve or fourteen feet high, adorned with luxuriant, beautiful, lanceolate-oval, foliage, and ringent white flowers in spikes, having one-leaved, five-pointed cups, a monopetalous corolla deeply divided into two ringent lips, two stamina, one style, and oblong elastic capsule, discharging the seeds with elasticity.

The species is,

JUSTICIA *Adhatoda*. (*Adhatoda*) Tree Justicia of Ceylon, or Malabar Nut-tree. (*Spear-shaped, oval, opposite leaves, oval persistent bractea, and a concave helmet to the corolla.*)

This tree exhibits a distinguishable variety among the green-house exotics; and is propagated by cuttings, in spring and summer, in pots plunged in a bark or dung hotbed; and by layers.

JUNIPERUS, (*Juniper Tree*) BERMUDIAN CEDAR. (*Dioecia monadelphia.*)

An ever-green South American tree, closely branched, and of regular growth, adorned with small closely-placed, awl-shaped leaves, and small dioecious flowers, the males

in conical amentums, having monadelphious stamina, and the females only have three petals, succeeded by small roundish three-seeded berries. See the *Hardy Junipers*.

The species is,

JUNIPERUS Bermudiana. Bermudian Cedar Tree. (*Acute lower leaves by threes, and the upper ones awl-shaped, decurrent, and spreading by twos and fours.*)

This species being the tenderest of the *Juniperus* kind, you should keep some plants, male and female, in pots, for variety, as green-house plants, and to have shelter in winter; it is raised from seed sowed in the spring, in pots, which if plunged in a hot-bed, the plants will rise sooner and more freely the same year.

IXIA. (*Ixia*) (*Triandria monogynia*.)

It consists of herbaceous flowery perennials, with bulbous and tuberous roots, sending up long, narrow, and sword-shaped leaves, and upright annual flowerstalks, from three, four, or six inches, to a foot, or half a yard high, terminated by an oblong spatha, protruding a cluster of hexapetalous yellow, white, and blue flowers, composed of six oblong unequal petals, three stamina, a triquetrous, oval germen, one style, and roundish trigonous, trilocular capsule with roundish seeds.

The chief species are,

1. *IXIA Africana*. African Downy-headed *Ixia*. (*Very low flowerstalk topped by downy heads of flowers, and a torn spatha.*)

2. *IXIA bulbifera*. Bulbiferous Cape *Ixia*. (*Long linear leaves, upright flower stalks, bearing bulbs at the axillas, and yellow flowers placed alternate.*)

3. *IXIA flexuosa*. Flexible flowered Cape *Ixia*. (*Linear leaves, and racemous, multiferous bending spikes of white flowers.*)

4. *IXIA corymbosa*. Corymbose flowered Cape *Ixia*. (*Two-edged stalks, and blue flowers, growing in a corymbus.*)

5. *IXIA crocata*. Crocus-coloured Cape *Ixia*. (*Sword-shaped leaves, alternate-placed, deep yellow flowers, blackish at the base.*)

6. *IXIA scillaris*. Scilla amœna-flowered Cape *Ixia*. (*Sword-shaped striated leaves, and elongate spikes of blue flowers.*)

7. *IXIA polystachia*. Many-spiked Cape Ixia. (*Linear leaves, and flower-stalks having many spikes of white flowers.*)

8. *IXIA Chinensis*. Chinese panicle-flowered Ixia. (*Fleshy tuberous root, sword-shaped leaves, tall stalks, and forked panicles of yellow-spotted flowers, standing remote.*)

These being all natives of warm countries, mostly of Africa, and the last sort of India, must always be retained in pots in this country, and sheltered either in a garden frame or green-house in winter, and they will flower very ornamentally every year, in May, June, and July, and sometimes ripen seeds.

They have mostly bulbous roots, and those of the Chinese sort are tuberous and fleshy: all of which produce their leaves and flowerstalks annually in spring, and decay in summer and autumn; which is the proper time to transplant the roots, and also to propagate them by offsets; the Chinese kind also by dividing the roots in spring, before they begin to vegetate; the bulbiferous kind also by the cauline bulbs.

K.

KIGGELARIA. (*Kiggelaria*) (*Dioecia decandria*.) Consists of an ever-green African tree, of moderate growth, with purplish branches, oblong, light green leaves, and dioecious greenish flowers in clusters, having five-lobed cups, five concave petals, ten filaments, a roundish germen, with five styles, and a globular unilocular capsule with angular seeds.

The species is,

KIGGELARIA Africana. African Kiggelaria.

It is propagated by seed, cuttings, and layers, the two former assisted by a hot bed, covering the cuttings also close, with a small hand glass, to facilitate the emission of fibres.

L.

LANTANA. AMERICAN VIBURNUM. (*Didynamia angiospermia*.)

Comprehends for the green-house two Æthiopian ever green exotics of the shrub kind, growing five or six feet high, furnished with oval and oblong alternate and opposite leaves, and white and purple tubulous irregular flowers, singly and in clusters, having tubulous four-parted cups, a monopetalous, long, tubulous corolla, dividing above in four or five segments, two long and two short stamina, roundish germen, single style, and roundish drupaceous fruit, containing a bilocular nut.

The species are,

1. *LANTANA africana*. African Ilex-leaved Lantana. (Oval alternate sessile leaves, and singly-placed white flowers.)
2. *LANTANA salvifolia*. Sage-leaved African Lantana. (Long, ovalish, rough, opposite, sessile leaves, and blue flowers in clusters.)

These are desirable furniture for improving the green-house collection as ever-greens, producing flowers in summer, and great part of the year; and are easily propagated by cuttings in spring and summer in a hot-bed, or covered close with a glass, also by layers.

LAVANDULA, LAVENDER. (*didynamia gymnospermia*.)

Consists of under-shrubby exotics for the green-house, of three or four feet growth, with deeply pinnatifid and multifid leaves; and the branches terminated by four-cornered spikes of tubulous, ringent blue flowers, having two long and two short stamina, one style, and four naked seeds.

The species are,

1. *LAVANDULA dentata*. Dentated-leaved, shrubby, Spanish Lavender. (*Pinnatifid-dentated opposite leaves*)
2. *LAVANDULA multifida*. Multifid-leaved Canary Lavender. (*Doubly-pinnatifid, many-parted leaves*.)

Retain them in pots of good earth among the green-house exotics, where they will flower all summer, and

may be propagated by slips and cuttings of the young shoots in spring and summer.

LAVATERA, (*Lavatera*.) Shrubby Mallow. (*Monadelphica polyandria*.)

For the green-house are some tall, upright, shrubby-stalked, malvaceous-leaved perennials, rising with large, single, branchy stems, several feet high, terminated by bushy heads, garnished with large roundish-trilobated, and quinquangular and septangular, soft woolly leaves, and large purple flowers, singly, and in clusters, of five heart-shaped petals, many monadelphous stamina, orbicular germen, short style, and numerous capsules collected into a head, having each one kidney seed.

The species are,

1. LAVATERA *triloba*. Three lobed Spanish shrubby Lavatera. (*Roundish, heart-shaped, almost three lobed, crenated leaves, and aggregate, uniflorous peduncles.*)

2. LAVATERA *olbia*. Olbian solitary-flowered, shrubby Lavatera. (*Hastate, five-lobed leaves, and flowers growing singly.*)

3. LAVATERA *lusitanica*. Portugal seven-lobed shrubby Lavatera. (*Seven-lobed, plicated, downy leaves, and terminate clusters of flowers.*)

Most of these species, though they will succeed in the open ground in a warm situation in moderate seasons, yet being rather tender, and liable to suffer in severe winters, some should be kept in pots as green-house plants; they will form a very agreeable variety in their large bushy heads and luxuriant foliage, and continue flowering from June till August or September, and ripen seeds.

They are propagated by seeds sowed in March or April, in a bed of light earth, drilled in half an inch deep, and the plants planted singly in pots of light earth.

LAURUS, BAY TREE. (*Enneandria monogynia*.)

Furnishes for this place very elegant ever-green and deciduous tree kinds, adorned with large beautiful oval, and spear-shaped veined leaves, and hexapetalous, small, whitish yellow flowers in longish bunches, having no cups; six oval concave petals, nine stamina, oval germen, supporting a single style, succeeded by an oval unilocular berry, containing one seed.

The species are,

1. LAURUS *Camphora* (*Camphora*.) Camphire Tree, or Japan Bay. (Oval spear-shaped leaves, having three longitudinal nerves.)

2. LAURUS *indica*. Indian Bay Tree. (Tuberculated scarified branches, very large spear-shaped, veined, plane leaves, and flowers in clusters.)

3. LAURUS *Borbonia* (*Borbonia*.) Carolina blue-berried Bay Tree. (Spear-shaped veined leaves, and blue berries, inclosed in red cups.)

4. LAURUS *æstivalis*. Summer-leaved, or deciduous American Bay Tree. (Oblong, sharp-pointed, veined, deciduous leaves.)

These fine trees deserve observation in all eminent green-house collections, and may be propagated by layers of the young shoots; likewise try them by cuttings in a bark or dung hot-bed, and the pots covered close with a hand-glass; likewise by the berries from abroad, sowed in pots, and plunged in a hot-bed.

LIMODORUM. (*Limodorum*.) (*Gynandria diandra*.)

One species; a tuberous-rooted, flowery perennial, sending up long, radical, sharp-pointed leaves, an erect naked footstalk fifteen or eighteen inches high, surmounted by a loose spike of spathaceous purple flowers of five oval dissimilar petals, inclosing a concave nectarium, two gynandrious stamina, a columnar germen under the corolla, one style, and a column-shaped, trivalvovous, unilocular capsule, with four or five roundish seeds.

The species is,

LIMODORUM *tuberosum*. Tuberous-rooted American Limodorum.

Procure some roots when destitute of leaves, and plant them in pots of good earth, and they will flower in June and July, and sometimes in spring and autumn, and propagates in tolerable plenty by off-sets.

LINUM, LINT, or FLAX. (*Pentandria pentagynia*.)

It furnishes for the green-house some upright perennials for variety, rising two or three feet high, garnished with spear and wedge-shaped leaves, and terminated by many yellow, funnel-shaped flowers, with five-leaved cups, five oblong petals, five stamina, and five styles, succeeded by

a globular, pentangular, quinquevalvous capsule of ten cells, having as many seeds.

The most noted species are,

1. *LINUM maritimum*. Maritime Montpellier Flax. (*Spear-shaped leaves, opposite below, and oval, acute, flower cup leaves.*)
2. *LINUM arborescens*. Tree-stalked Cretan Flax. (*Arborescent stalk, and wedge-shaped leaves.*)
3. *LINUM suffruticosum*. Undershrubby Valentian Flax. (*Undershrubby stalks, linear, acute, rough leaves.*)
4. *LINUM narbonense*. Narbonne wild blue Flax. (*Round taper stalk, branchy at the base, spear-shaped, acuminate, rough, scattered leaves.*)

These species of *Linum* are all of perennial growth; are retained in eminent green-house collections, to increase the variety, and are raised from seeds sowed in March or April, in a bed or border of common earth, and by bottom off-sets; also, those with durable stalks, by cuttings.

LOBELIA, CARDINAL FLOWER. (*Syngenesia monogamia.*)

Two herbaceous, very ornamental flowery perennials, that require shelter in severe winters; having fibrated roots, sending up spear-shaped and oval leaves, upright annual stalks, half a yard or two feet high, terminated by spikes of beautiful scarlet and blue simple flowers, with small quinque-dented cups, a monopetalous, somewhat gaping corolla, long and tubulous below, dividing above in five unequal segments; five stamina with united anthera; one style, and an oval bilocular capsule, with numerous seeds.

The species are,

1. *LOBELIA Cardinalis* (*Cardinalis.*) Common Virginia Cardinal Flower. (*Erect stalks, spear-shaped, sawed leaves, and terminate spikes of beautiful scarlet flowers.*)
2. *LOBELIA siphilitica*. Blueish Virginia Cardinal Flower. (*Erect stalks, oval spear-shaped, crenated leaves, and sinuated reflexed flower cups.*)

Varieties.

Blue flowered.

Violet-coloured flowered.

White flowered.

These

These perennials deserve admittance in all good collections, for the beauty of their flowers, which make a fine appearance in July and August, and sometimes furnish ripe seed, by which the plants may be raised in a warm border, or in pots or boxes, defended from frost; also by cuttings of the stalks in June, and by root off-sets in September or March.

LOTUS, BIRD'S FOOT TREFOIL. (*Diadelphia decandria*.)

It comprises, for shelter of the green-house in hard winters, some undershrubby and herbaceous flowery perennials of trailing and upright growth, from one or two, to three or four feet high, furnished mostly with trifoliate leaves, of three distinct lobes, and papilionaceous yellow flowers, composed of a roundish reflexed standard, two broad roundish wings, and short carina or keel, with ten diadelphous stamina, taper germen, and single style, succeeded by small cylindric bivalvous pods, with many partitions, containing each one seed.

The species are,

1. LOTUS *cretica*. Cretan silvery Lotus. (*Undershrubby stalks, bright, silky, silvery leaves, and seed-pods by threes.*)
2. LOTUS *jacobum*. Lotus of St. James's Island. (*Upright herbaceous stalks, leaves with linear lobes, and seed-pods mostly by threes.*)—Yellow purple flowers.
3. LOTUS *Dorycnium* (*Dorycnium*.) Spanish five-lobed white Lotus. (*Five-lobed, fingered, hoary, close-fitting leaves, and aphyllous heads of white flowers.*)
4. LOTUS *hirsutus*. Hairy Italian Lotus. (*Erect hairy stalks, hairy heads of whitish flowers, and oval pods.*)
5. LOTUS *recta*. Erect-podded French and Italian Lotus. (*Erect stalks, globular heads of flowers, and erect smooth pods.*)
6. LOTUS *maritimus*. Maritime French and Spanish Lotus. (*Smooth trifoliate leaves, with oval bractea, and single, quadrangular-winged pods.*)

These plants have mostly durable stalks; they are retained in our green-house collections for variety, though the last three sorts will also live in the open ground; but being sometimes much cut by hard frost, it is proper to retain some of all the sorts as green-house plants, in

which they will effect an agreeable diversity, and produce many flowers from June and July till the autumn, producing ripe seed.

They may be raised from seed in a warm border in April, or forwarded in a hot-bed, also by cuttings in spring and summer.

LYCIUM, Box THORN. (*Pentandria monogynia.*)

Consists of shrubby, thorny ever-greens, exotics of Africa, Asia, and America, requiring the shelter of a green-house in severe winters, rising some erectly six or eight feet high, others of somewhat trailing growth, closely garnished with small, linear, and spear-shaped leaves, and purple and white infundibulliform flowers along the sides of the branches; having five-parted permanent cups, a funnel-shaped corolla, tubular below, dividing upward in five parts; five stamina, roundish germen, with a simple style, succeeded by roundish, bilocular, many-seeded berries,

The species are,

1. **LYCIUM afrum.** African linear-leaved Box-Thorn. (*Linear different-sized leaves, and purple flowers.*)

2. **LYCIUM barbarum.** Barbary Rosemary-leaved Lycium. (*Whitish branches, spear-shaped, thick whitish leaves, and white flowers, with bifid cups.*)

Varieties.

Trailing broad leaved Barbary Lycium.

Trailing narrow-leaved Barbary Lycium.

3. **LYCIUM capsulare.** Capsular Mexican Box Thorn. (*Small spear shaped smooth leaves, downy peduncles and capsule-like seed pericarpiums.*)

These shrubs, remaining closely garnished with small foliage the year round, afford a distinguishable diversity among the green-house exotics; though the first and second are sometimes disposed in a warm part of the shrubbery, but it is eligible to retain some in pots for shelter in winter; they are all propagated by seed, cuttings, and layers, in beds of common earth; or the seed and cuttings may be forwarded in a hot-bed.

M.

MARRUBIUM, HOREHOUND. (*Didynamia gymnospermia.*)

It affords for the green-house, two undershrubby hoary exotics of two feet growth, adorned with heart-shaped, hoary, whitish leaves, and white and purple ringent or lip flowers, disposed in whirls, having funnel-shaped spreading cups, a small cylindric tubulous corolla, divided in two indented lips, two long and two short stamina, one style, and four naked seeds in the calix.

The species of note are,

1. **MARRUBIUM** *Pseudo-dictamnus* (*Pseudo-dictamnus.*) Bastard Dittany of Crete. (*Undershrubby stalks, heart-shaped, concave leaves, and plane hairy rim to the cups.*)

2. **MARRUBIUM** *acetabulosum*. Saucer-cupped Cretan Bastard Dittany. (*Heart-shaped leaves, and cups having large flat membranaceous borders, indented into large angular round segments.*)

These two exotics, having a singular hoary aspect, exhibit a distinguishable variety in a collection; and are propagated by cuttings in spring and summer.

MEDEOLA. (*Medrola*) **CLIMBING AFRICAN ASPARAGUS.** (*Hexandria trigynia.*)

This genus consists of two herbaceous-undershrubby perennials from Africa and North America, of climbing and dwarfish growth, garnished with small pinnated, alternate, and whirled, oval, spear shaped leaves, and spreading whitish flowers, without cup, six ovalish spreading petals, six stamina, a three-horned germen, with three stigmas, succeeded by a roundish three-lobed, trilocular, three-seeded berry.

The species are,

1. **MEDEOLA** *asparagoides*. Climbing Myrtle-leaved African Asparagus. (*Cylindrical volubilate-climbing stalks, five or six feet high; pinnated-like leaves, with oval-spear-shaped, alternate-placed lobes.*)

Varieties.

1. **MEDEOLA** *angustifolia*. Narrow-leaved climbing African Asparagus.

2. *MEDEOLA virginiana*. Virginian Dwarf Medeo la
(Low smooth stalks, and spear-shaped leaves in whorls.)

Keep them in pots of common earth, and place stakes for the support of the climbing kinds, which will form an eligible variety, producing flowers in autumn and in winter, succeeded by ripe berries in the spring; and the second sort flowers in summer.

They are all propagated by root off-sets, cuttings of the stalks, and by seed in spring.

MEDICAGO, MEDICK. (Moon Trefoil.) (*Diadelphica decandria*.)

For the green-house is one shrubby, upright, beautiful Italian ever-green, six or seven feet high, producing hoary young branches, closely ornamented with fine trifoliate leaves, and papilionaceous yellow flowers in long clusters, having bell-shaped five-lobed cups, a corolla composed of an oval reflexed standard, two oblong wings, and bifid, reflexed carina, ten stamina, united into two sets, oblong, incurved, compressed germen, short style, and a long inflexed pod, with kidney seeds.

The species is,

MEDICAGO *arbores*. Tree Medicago, or shrubby Neapolitan Moon Trefoil. (Tree-like stalk, and half moon shaped entire pods.)

This is a showy ever-green, flowers ornamentally in summer and autumn, and is propagated by seed, cuttings, and layers; the seed and cuttings in spring, either in a bed or border of light earth, or in pots plunged in a hot-bed, to facilitate their vegetation.

MELIA. BEAD TREE. (*Decandria monogynia*.)

Comprises two Asiatic species of the tree kind, with widely branching heads, adorned with doubly and singly pinnated leaves, and pentapetalous, blue, and white flowers in long bunches at the sides of the branches, having small, five-pointed cups, five long spear-shaped spreading petals, and a monopetalous cylindric nectarium, the length of the petals; ten stamina, conical germen, and cylindric style, succeeded by a globular drupaceous yellow fruit, including a roundish, five-furrowed, quinquelocular nut, with five seeds.

The species are,

1. MELIA *Azedarach*, (*Azedarach*.) Common bipinnated

nated Syrian Bead Tree. (*Large doubly pinnated leaves, of numerous lobes; and long bunches of blue flowers.*)

Variety.

MELIA (*Sempervirens.*) Evergreen, common, bipinnated Bead Tree of Ceylon.

2. MELIA *Azadirachta*, (*Azadirachta.*) Indian pinnated evergreen Bead Tree. (*Singly-pinnated leaves of five or six pair of oblong lobes, and an odd one; and bunches of white flowers.*)

These demand culture in all green-house collections, being very ornamental in their elegant pinnated leaves, though the first is also planted in shrubberies in a warm situation; but some of which, together with the other sorts, should be always kept in pots, to have the shelter of a green-house in winter.

They flower in summer, but not always succeeded by ripe seed in England.

They are raised from seed obtained from abroad, sowed in spring in pots, and plunged in a bark or dung hot-bed, and occasionally by cuttings and layers.

MELIANTHUS (*Melanthus.*) HONEY FLOWER. (*Didynamia angiospermia.*)

Consists of two African species, tall erect ligneous-stalked, flowery perennials, rising with many upright durable stems, from four or five, to six or eight feet high; furnished with large pinnated leaves of four or five pair of large oblong lobes, ending with an odd one, and long loose spikes of tetrapetalous flowers along the upper part and top of the stalks, having large five-parted coloured unequal cups, four spear-shaped spreading petals; two long and two short stamina, a four-cornered germen, erect style, and a quadrangular capsule, with several partitions and cells, with each a globular seed.

The species are,

1. MELIANTHUS *major*. Greater Melianthus, or Honey Flower. (*Tallest upright stalks, six or eight feet high; and single stipula, set close to the leaf-stalk.*)—Chocolate-coloured flowers.

MELIANTHUS *minor*. Minor, or Lesser Melianthus. (*Shorter stalks, four or five feet high; and distinct stipula by pairs; green-tinged, saffron and red flowers.*)

Both

Both these plants merit observation for improving the green-house collection, being ornamental in their tall erect growth, foliage, and flowers, they flowering numerously in June and July; they are also sometimes planted out in warm shubberies; but being of a tender nature, should keep some in pots, to have the shelter of a green-house, &c. in winter.

Propagate them by suckers from the root, and cuttings of the young upper part of the stalks and branches, which may be forwarded in rooting in a hot-bed, or close covered with a hand-glass.

MENTHA (*Mint*) SHRUBBY MINT. (*Didynamia angiospermia*.)

It furnishes one undershrubby exotic of three or four feet growth, adorned with oval leaves, and small, tubulous, lip flowers in roundish spikes. See the *Hardy herbaceous Mints*.

The species is,

MENTHA Canariensis, Canary shrubby Mint. (*Oval crenated opposite leaves, and flowers in roundish, forking spikes, at the axillas of the stalks.*)

This forms a good variety; the bruised leaves very odoriferous, and is easily propagated by cuttings in summer.

MESEMBRYANTHEMUM (*fcooides*) FIG MARI-GOLD. (*Icosandria pentagynia*.)

Consists of a curious collection of succulent perennials of various singular growths, comprising shrubby and herbaceous kinds, with succulent stalks, branches, and leaves, some erect, others trailing, some loose and pendulous, and some without stalks, only leaves rising directly from the bottom; and in all the sorts the leaves are mostly thick, fleshy, and of many different shapes, sizes, and directions, some being long and cylindrically round, others taper, some tongue-shaped, scymitar-shaped, awl-shaped, angular, triangular, quadrangular, horned, bowed, recurved, &c. and some smooth, others punctured, and papulose or pimply, exhibiting together a singular and entertaining variety; and numerous multifid marigold-shaped, white, red, and yellow multipartite flowers, having monophyllous, five-parted persistent cups, a monopetalous corolla, multifid into many narrow seg-

ments in several series; twenty or more stamina, five-cornered germen under the corolla, with from five to ten or more styles, succeeded by a roundish, fleshy, fig-shaped capsule of five or more cells, and numerous seeds.

The species are,

Fruticose kinds, or with shrubby firm durable stalks.

1. MESEMBRYANTHEMUM *noctiflorum*. Night-flowering Ficoides. *Half-cylindric smooth leaves, flowers having footstalks, and quadrisid cups.*)

2. MESEMB. *geniculiflorum*. Jointed or axillary flowered Ficoides. *(Half-cylindrical, papulose distinct leaves, and sessile flowers at the axillas, and quadrisid cups.)*

3. MESEMB. *umbellatum*. Umbelliferous flowered Ficoides.

4. MESEMB. *barbatum*. Bearded-leaved Ficoides. *(Ovalish, papulose, distinct leaves, having the tip bearded in a radius.)*

Varieties.

Dwarf small-leaved, bearded Ficoides.

Dwarf large-leaved, bearded Ficoides.

5. MESEMB. *scabrum*. Rough-leaved Ficoides. *(Awl-shaped distinct leaves, rough and prickly underneath.)*

6. MESEMB. *uncinatum*. Uncinated or hooked Bucks-horn Ficoides. *(Joints of the stalks terminated by triangular acute, connated leaves.)*

Variety.

Greater perfoliate, three thorned leaved.

7. MESEMB. *splendens*. Bright-leaved Ficoides. *(Half cylindrical, recurved smooth leaves, distinct in clusters.)*

8. MESEMB. *emarginatum*. Emarginated or notched-flowered Ficoides. *(Awl shaped roughish leaves, in clusters, and emarginated or notched petals.)*

9. MESEMB. *falcatum*. Faulchion-shaped-crooked-leaved Ficoides. *(Cylindrical branches, scymitar-shaped crooked, distinct pinnated leaves.)*

10. MESEMB. *micans*. Glittering Ficoides. *(Rough stalk, almost cylindric, pimply, silvery, glittering leaves.)*

11. MESEMB. *veruculatum*. Verucula-formed or spit-shaped leaved Ficoides. *(Three-square-cylindrical, acute, bowed, smooth, connate leaves.)*

12. MESEMB. *ferratum*. Serrated-leaved Ficoides. *(Awl shaped-three-square punctated leaves, with the keel angle contrary sawed.)*

13. MESEMB.

13. MESEMBRYANTHEMUM *glaucum*. Grey-leaved Ficoides. (Three-square, acute, punctated, distinct leaves, and heart-shaped calycinal lobes.)

14. MESEMB. *glomeratum*. Glomerated or clustered Ficoides. (Cylindrical, compressed, spotted, clustered leaves, and a branchy stalk, with multiflorous panicles.)

15. MESEMB. *tuberosum*. Tuberous-rooted Ficoides. (A headed tuberous root, awl-shaped papulose leaves, patent at top.)

16. MESEMB. *villosum*. Hairy or downy Ficoides. (Hairy stalk, linear, semi-cylindrical, downy, unspotted, connate leaves.)

17. MESEMB. *stipulaceum*. Stipulaceous or bordered-leaved Ficoides. (Three-cornered, compressed, incurved, spotted, clustered leaves, bordered at the base.)

18. MESEMB. *spinosum*. Thorny Ficoides. (Thorny branches, taper three-cornered spotted leaves.)

19. MESEMB. *pugioniforme*. Dagger-leaved Ficoides. (Long awl shaped, three-cornered, unspotted leaves.)

20. MESEMB. *hispidum*. Hispid or bristly-stalked Ficoides. (Hispid stalk, cylindric, papulose, or pimply leaves.)

Varieties.

Pale purple-flowered.

Striped purple flowered.

Orange-coloured flowered.

21. MESEMB. *tenuifolium*. Small slender-leaved Ficoides. (Half cylindric, awl-shaped, long, slender, smooth leaves.)

22. MESEMB. *difforme*. Different-formed-leaved Ficoides. (Thick, punctured, connated leaves, of two or more different forms.)

23. MESEMB. *bicolorum*. Two-coloured flowered Ficoides. (Shrubby stalk, awl shaped, smooth, punctured leaves, and a two-coloured corolla.)

The following with herbaceous head-like, soft, loose, pendulous stalks.

24. MESEMB. *filamentosum*. Filamentose-flowered Ficoides. (Hexangular branches, equally three-cornered acute leaves, with rough angles.)

25. MESEMB. *loreum*. Leathery-stalked pendulous Ficoides. (Pendulous loose stalks, semi-cylindric, recurved, clustered, connated leaves.)

26. MESEMB.

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26. MESEMBRYANTHEMUM *crassifolium*. Thick-leaved creeping Ficoides. (Half-cylindric, creeping rooting stalks, semi cylindric smooth leaves, three-cornered at top.)

27. MESEMB. *forficatum*. Forked Ficoides. (Two-edged stalk, scymitar-shaped, obtuse, unspotted, connate leaves, thorny at the point.)

28. MESEMB. *acinaciforme*. Scymitar-leaved Ficoides. (Scymitar-shaped, unspotted, connate leaves, having the angle of the keel rough.)

29. MESEMB. *dolabriforme*. Ax-leaved Ficoides (Ax-shaped, punctured leaves.)

30. MESEMB. *expansum*. Expanded or spreading Ficoides. Spear-shaped, plane, unspotted, spreading, opposite, and alternate leaves.)

31. MESEMB. *corniculatum*. Horned-leaved Ficoides. (Three square, half cylindric, rough punctated leaves.)

Variety.

Short leaved.

32. MESEMB. *Tripolium* (*Tripolium*.) Tripolium-leaved Ficoides. (Loose single stalk, spear-shaped, plane, unspotted, alternate leaves.)

33. MESEMB. *deltoides*. Delta-leaved Ficoides. (Delta-shaped three-cornered, dentated leaves.)

34. MESEMB. *edule*. Eatable-fruited Ficoides. (Two-edged stalk, equally-triangular acute, upright leaves, with the keel sawed.)

35. MESEMB. *tortuosum*. Twisted-leaved Ficoides. (Oblong-oval plane, somewhat papillose leaves, in clusters, and connated.

Acaulis kinds, or without stalks, the leaves mostly rising from the root.

36. MESEMBRYANTHEMUM *calamiforme*. Calami-formed or quill-shaped leaved Ficoides. (Without stalk, taper, ascending, unspotted, connate leaves.)

37. MESEMB. *ringens*. Ringent-flowered, or Dog's-chap Ficoides. (Almost without stalk, triangular, indented, ciliated, punctured leaves.)

38. MESEMB. *albidum*. White-leaved Ficoides. (Without stalk, and robust, triangular, whitish, entire leaves.)

Varieties.

Caninum. Dog-chap flowered.

Felinum. Cat-chap flowered.

MESEMB.

39. MESEMBRYANTHEMUM *linguiforme*. Tongue-leaved Ficoides. (*Without stalk, tall, tongue-shaped, thick edged, impunctured leaves.*)

Varieties,

Broad-leaved.

Narrow-leaved.

Long-leaved.

40. MESEMB. *rostratum*. Rostratiform or Heron's Bill Ficoides. (*Without stalk, half-cylindric, tuberculated connate leaves.*)

41. MESEMB. *bellidiflorum*. Daisy-flowered Ficoides. (*Without stalk, linear, triangular, spotless leaves, three-parted at top*.)

For some annual kinds, See the *Herbaceous Division*,

All the above species of *Mesembryanthemum* are exotics from the Cape of Good Hope, and other parts of Africa, inhabitants of dry situations; all of perennial growth, durable in root, stalk, and branches, and retain their leaves all the year, and mostly very floriferous, and the flowers ornamental, appearing in spring, summer, autumn, and winter, in the different species, adorning the plants in great profusion, each flower having the petals finely multifid, and sometimes succeeded by ripe fruit, furnishing seed.

They have all succulent stalks, and fleshy leaves full of moisture, must always be kept in pots of light dry earth; and in winter disposed in the front of the greenhouse near the glasses, but very moderately watered in that season; and in summer placed in the open air, from the beginning of June till the end of September, and frequently watered in dry weather.

They are all easily propagated by cuttings of their stalks and branches in spring and summer, and occasionally by seed; permitting the cuttings to lie on a shelf a few days, or a week or more, to heal over the moist cut part at bottom, then planted in pots, several in each, when planted in spring, they may be plunged in a hot-bed, to facilitate the emission of roots, though in summer they will all root freely in a bed or border of natural earth, defended from excessive wet, and the full sun, till rooted, then planted in separate pots.

MORÆA (*Moræa*.) (*Triandria monogynia*.)

Consists of two herbaceous flowery perennials from Africa, with tuberous roots, sending up small sword-shaped and awl-shaped leaves, and upright flower-stalks, six, eight, or ten inches high, terminated by a bivalvous scabbard, protruding one or two hexapetalous flowers, having three erect and three spreading petals, three stamina, one style, and a triangular, trilocular capsule, with round seeds.

The species are,

1. MORÆA *vegeta*. Sword-leaved Moræa. (*Sword-shaped, channelled leaves, and the sheath protruding one whitish flower.*)

2. MORÆA *juncæa*. Rushy-awl-shaped leaved Moræa. (*Awl shaped leaves, and the sheath protruding two orange-coloured flowers.*)

They are perennial in root, which in the first is fleshy and fibrous, in the second bulbous, producing leaves and stalks annually, flowering in June and July; and are propagated, the first by parting the roots, the other by off-sets; also both sorts by seeds.

MYRICA, CANDLEBERRY MYRTLE. (*Diœcia tetrandria*.)

Comprehends for the green-house some ornamental, moderate, ever-green shrub kinds from Æthiopia, of from three to four or five feet growth, with slender branches, garnished with smallish oblong, heart shaped, trifoliate, and spear-shaped leaves, and male and female flowers on distinct plants, in oblong and oval scaly imbricated cups, without petals; four stamina in the males, and in the females an oval germen, elevating two styles, succeeded by an unilocular, one-seeded, waxy berry.

The species are,

1. MYRICA *quercifolia*. Oak-leaved Myrica. (*Ob-long sinuated opposite leaves.*)

2. MYRICA *cordifolia*. Cordated or Heart-leaved Myrica. (*Heart-shaped, serrated, close-fitting leaves.*)

Variety.

Entire, or unserrated leaved.

3. MYRICA *trifoliata*. Three-leaved Myrica. (*Trifoliate indented leaves.*)

4. MYRICA

4. *MYRICA cerifera-carolinienfis*. Carolina Dwarf broad-leaved Candleberry Myrtle. (*Broad, spear-shaped, sawed leaves.*)

These shrubs being closely garnished with fragrant leaves mostly the year round, demand admittance in all curious collections, to improve the variety; produce their amentums of flowers in June and July, but rarely ripen berries in England.

They are raised from layers, suckers, and cuttings; also by the berries procured from abroad, sowed in pots half an inch deep, sheltered in bad weather, or forwarded in a hot-bed.

MYRSINE (Myrsine.) AFRICAN BOX TREE. (Pentandria monogynia.)

Consists of one species, an African ever-green shrub, furnished with small, roundish, oval, firm leaves, like the Box-leaved Myrtle, and dark purple flowers of four or five lobes, five stamina, round germen, one style, and roundish berries, with several seeds.

The species is,

MYRSINE africana. African Box Tree.

This is a pretty green-house shrub, and is raised from cuttings in a hot-bed; also by layers; and by seed from abroad.

MYRTUS, MYRTLE TREE. (Icosandria monogynia.)

For the green-house there is one species, the Common Myrtle, a most beautiful small-leaved, ever-green shrub of delightful fragrance, comprehending many fine varieties, rising from three or four, to six or eight feet high, with very branchy, bushy, full heads, very closely adorned, with small oval and spear-shaped firm shining leaves of different sizes in the varieties, from half an inch to an inch and half long, by half as broad, and numerous small whitish and reddish flowers singly along the branches; having five pointed permanent cups, five oval petals, twenty or more stamina, a germen under the corolla, supporting a slender style, succeeded by an oval, umbilicated, trilocular berry, with three seeds.

The species is,

MYRTUS communis. Common Myrtle Tree. (*Oval-spear-shaped leaves, solitary, or singly-placed flowers, and two-leaved involucrum.*)

Varieties.

Varieties.

MYRTUS romana. Roman broad-leaved Myrtle.
(Largest oval leaves, an inch and an half long.)

———— Gold-striped, broad-leaved Myrtle.

MYRTUS belgica. Belgic or Dutch broad-leaved Myrtle. (Spear-shaped, sharp-pointed leaves.)

———— Dutch three-leaved, or Jew's Myrtle. (Having leaves by threes round the branches.)

———— Double-flowered Dutch Myrtle.

MYRTUS lusitanica. Portugal acute-pointed-leaved Myrtle. (Oval, acute pointed leaves.)

MYRTUS italica. Italian upright Myrtle. (Erect branches, smaller, oval spear-shaped, acute leaves.)

Varieties.

Silver, striped leaved, upright Myrtle.

Gold, striped-leaved, upright Myrtle.

Ruscus-leaved, upright Myrtle.

White-berried, upright Myrtle.

MYRTUS tarentina. Box-leaved Myrtle. (Small, oval, blunt, shining leaves.)

MYRTUS tarentina. Striped, Box-leaved Myrtle.

MYRTUS baetica. Spanish Orange-leaved Myrtle. (Broad, oval, spear-shaped leaves, in clusters.)

———— Gold-striped, Orange-leaved Myrtle.

———— Double-flowered, Orange-leaved Myrtle.

MYRTUS mucronata. Sharp-pointed, or Rosemary-leaved Myrtle. (Small narrow leaves, ending in sharp points.)

———— Silver-striped, Rosemary-leaved Myrtle.

MYRTUS cristata. Cristated, or Bird's-nest Myrtle. (Small sharp-pointed leaves, cristated or tufted at intervals.)

———— Silver-striped-leaved Bird's-nest Myrtle.

———— Gold-dotted-leaved Bird's-nest Myrtle.

MYRTUS moschata. Nutmeg-scented Myrtle. (Erect branches, oval acute leaves.)

———— Broad-leaved Nutmeg Myrtle.

MYRTUS

MYRTUS *moschata*. Narrow-leaved Nutmeg Myrtle.

Silver-striped Nutmeg Myrtle.

Blotched-leaved Nutmeg Myrtle.

The Myrtle is an inhabitant of the southern parts of Europe, Asia, and Africa, and has been long a resident in our green-house collection, forming a fine diversity in the different sorts, all of which are supposed to be accidental varieties of one species, and the common broad-leaved Myrtle is supposed to be the parent plant, which furnished other varieties from seed; and by which all the others were obtained.

They being all very desirable ever-green shrubs, of a neat, bushy growth, very closely garnished with leaves the year round, of an aromatic fragrance, and produce numerous flowers in summer, sometimes succeeded by berries; and being of easy propagation and culture, may be cultivated plenteously in all green-house collections, and some of the broad-leaved kinds will succeed in the open ground against a warm wall, trained thereto, and occasionally defended in winter with mats, from sharp frost.

The propagation of all the varieties of Myrtle is by slips and cuttings of the young shoots in spring and summer; also by layers; and occasionally by seed.

But as the slips and cuttings root abundantly free, it is the most eligible method for raising any considerable quantity; and the shoots of the former and same year are the proper parts for planting, but principally the young shoots of the year, in June, July, and August, for raising any large supply; all of which will root the same year, planted either in pots of natural earth, covered with a glass, or may be greatly forwarded in a hot-bed, both in rooting, and shooting at top; observing, if you plant them in spring, any time from March till June, choose principally the shoots of last year, and assist them by a hot-bed; but in summer, about the end of June, and all July and August, the shoots of the same year will be of a properer growth, and will root in natural earth, though if also plunged in a hot-bed the rooting will be considerably facilitated, and the plants forwarded vastly in shooting.

But the London gardeners, who raise vast quantities annually for the markets, make two or three different plantings each season, assisted by artificial heat; the first in March or April, of the young shoots of last summer, or in May, or early in June, also of the former year's shoots; and from about Midsummer to the end of July, they plant a large quantity of the best shoots of the year, and in a month or six weeks after, make another plantation; each planted thickly in pots or wide pans, and plunged in a bark-bed, or other hot-bed, under glasses, and thus have young plants advancing in the different stages of growth.

These different plantings, however, are only practised where large quantities are wanted for sale; but for private gardens, one plantation either in spring or summer, may be sufficient.

Observing, however, that where there is not the convenience of artificial heat, either of bark or dung or hot-beds, to force the striking of the cuttings, should plant principally in July the slips or cuttings of the same year's shoots; though may also try the year old shoots in spring and early part of summer; but the tender shoots of the year root the most freely.

In either season of planting, both in natural earth and in hot-beds, chuse the straight robust shoots, of from two or three, to four, five, or six inches long, either slipped or cut off; and after divesting them of the lower leaves, proceed to plant them in wide garden pots, or flat wide earthen pans, six inches deep, with holes at bottom to discharge the moisture after occasional waterings; and being filled with light earth, plant the cuttings therein within an inch of their tops, and about an inch or two asunder, giving directly some water; and let those which are not designed to be forwarded in a hot-bed, be either plunged in a shallow garden-frame under the glasses, or each pot, &c. covered close with a hand-glass, and those you intend to assist by artificial heat, may be plunged either in a bark or dung hot-bed; the former is most eligible, but either will do under glasses; and if the pots are also covered close with a hand-glass, it will forward them exceedingly, supplying them in each method with plenty of water; and when they begin to grow at top, inure

inure them gradually to the full air, to give them strength.

Those in the natural earth without heat, will be rooted in six or eight weeks, and shoot at top; and next year will be fit to pot off separately in small pots.

But those assisted by artificial heat will be rooted in a fortnight or three weeks, and make considerable greater progress in growth than the others; as those planted early will form handsome little plants by next September, fit to pot off separately in small pots, and the latter planting, remaining in the nursery pots till next spring or autumn, will also be then fit for potting out.

In the general culture of Myrtles, give them the shelter of a green-house or garden frame in winter, affording them moderate waterings every week, and plenty of fresh air in all mild weather; and in summer, from May till October, placed in the open air, and watered two or three times a week in dry weather.

Likewise as they advance in growth, shift them into larger pots. *See the Appendix.*

They may either be permitted to grow bushy from the bottom, or trimmed up gradually to a stem a foot or two or more high, and suffered to branch out freely above, and form full heads.

N.

NERIIUM, OLEANDER, or INDIAN ROSE BAY. (*Pentandria monogynia.*)

Consists of a most elegant floriferous ever-green tall shrub kind, branching erectly six or eight feet high with thick straight shoots, garnished with long narrow spear-shaped, oval, and lanceolate-oval stiff leaves, and large bunches of beautiful red and white spreading flowers at the sides and ends of the branches; having acutely five-lobed persistent cups, a large monopetalous, funnel-shaped corolla, enlarged and divided above into five broad segments, inclosing a multifid coronated nectarium, five short stamina, with narrow-pointed connivent anthers.

terminating in long heads, a bifid germen, single sty'e, and two long cylindric, univalvous, many-seeded pods.

The species are,

1. *NERIUM Oleander* (*Oleander*.) Common Oleander. (Long, narrow, linear, spear-shaped, stiff leaves by threes, and loose bunches of large, very ornamental flowers.)

Varieties.

Red flowered common Oleander.

Scarlet-flowered.

White-flowered.

Broad-leaved, double-flowered. (Very large leaves, and most elegant red, rose-like flowers.)

Striped, double-flowered.

Striped leaved.

2. *NERIUM zelonium*. Ceylon opposite-leaved Oleander. (Spear-shaped, opposite leaves, and erect branches.)

3. *NERIUM antidysentericum*. Antidysenteric, oval-leaved Oleander. (Egg-oval, sharp-pointed, footstalked leaves.)

4. *NERIUM divaricata*. Divaricated-branched Oleander. (Lanceolate-egg-oval leaves, branches diverging asunder, and white flowers.)

These are admirable fine shrubs, but particularly the common Oleander, and its several varieties, which are the principal sorts in the English gardens; in great reputation as fine evergreens, and as some of the most beautiful flowering shrubs in the green-house collection; more especially the double blossom kinds, which produce very large bunches of ample rose-like flowers, making a superbly fine appearance; all of which flower in June, July, and August.

They are propagated with facility by layers in the spring; also by cuttings, assisted by a hot-bed; and sometimes by rooted suckers from the bottom.

O.

OLEA, OLIVE TREE. (*Diandria monogynia*.)

Three eminent evergreen tree and shrub species from France, Spain, Africa, and America, requiring shelter of a green-house in severe frosts; the first sort growing twenty feet high, the others but six or seven, all of them

branching numerously, almost from the bottom; adorned with small spear-shaped and oval, stiff leaves, and small funnel-shaped white flowers in axillary clusters; having small quadridented cups, a monopetalous, funnel-shaped corolla, spreading in four parts above, two stamina, roundish germen, with a single style, succeeding to an oval eatable fruit for pickling.

The species are,

1. *OLEA europæa*. European, or common French Olive Tree. (*Longish, spear-shaped, stiff, opposite leaves, and oval fruit, called Olives.*)

Varieties,

Narrow leaved Provence Olive tree.

Broad-leaved Spanish Olive tree.

Short-hard-leaved, wild Olive tree.

Shining-leaved, African Olive tree.

2. *OLEA capensis*. Cape shrubby Box-leaved Olive. (*Small ovate-roundish, thick, stiff leaves.*)

2. *OLEA americana*. American Olive-Tree of Carolina. (*Lancet-elliptical leaves.*)

They are sometimes planted in the full ground against a warm wall, particularly the Common Tree Olive, and trained like a wall-tree; but being tender, is often damaged by frost, so should always retain some as green-house plants, and are propagated by layers.

ONONIS, REST HARROW. (*Diadelphia decandria.*)

It furnishes for the green-house some low shrubby, and under shrubby perennials, from half a yard, to two or three feet high, of branchy growth, ornamented with roundish-oval, and linear, ternate, or trifoliate leaves, and yellow and purple papilionaceous flowers in spikes and panicles, terminating the branches; having five-lobed, arched cups, a corolla having a heart shaped vexillum, oval wings, and a pointed carina, ten diadelphous stamina, oblong germen, with a single style, and a turgid unilocular pod, and kidney seeds.

The species are,

1. *ONONIS crispa*. Curled-leaved Spanish Ononis. (*Shrubby stalks, roundish-ternate, waved curled, clammy-downy leaves, and panicles of yellow flowers, one on each peduncle.*)

2. *ONONIS retundifolia*. Round-leaved Alpine Ononis. (*Shrubby stalks, roundish-trifoliate leaves, and purple flowers, three on each peduncle.*)

3. *ONO-*

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3. *ONONIS tridentata*. Tridented-leaved Spanish Ononis. (*Shrubby stalks, narrow trifoliate, fleshy leaves, with three indentures, and purple flowers, two on each foot-stalk.*)

4. *ONONIS Natrix* (*Natrix.*) Hairy-viscous Spanish Rest Harrow. (*Undershrubby, herbaceous-like stalks, oval ternate, fleshy viscous leaves, and large yellow flowers, one upon each peduncle.*)

5. *ONONIS pinguis*. Fatty South European Rest-Harrow. (*Undershrubby, herbaceous-like, thick sappy stalks, large, spear-shaped ternate leaves, and yellow flowers, one upon each peduncle.*)

These plants are retained here in curious green-house collections, to encrease the variety, and as floriferous plants for ornament, flowering in May, June, and July; ripening seeds in autumn, by which they may be raised, sowed in March or April, in a bed or pots of light earth; also by suckers, and root off-sets, and by cuttings in summer, covered close with a hand-glass.

ORIGANUM (*Origany*) *MARJORAM*. (*Didynamia gymnospermia.*)

Consists of low undershrubby, and herbaceous, bushy perennial aromatics, from half a foot, to one or two feet high; garnished with small roundish and oval thick leaves, and numerous small tubulous, labiated purple, and white flowers, terminating the branches in verticillate spikes and clusters, having oval-leaved, coloured, imbricated involucrum, a cylindric-tubed ringent, two-lipped corolla, two long and two short stamina, a quadrifid germen, single style, and four naked seeds.

The chief green-house species are,

1. *ORIGANUM ægyptiacum*. Egyptian shrubby Marjoram. (*Roundish, fleshy, hollow, woolly leaves, and naked spikes of pale-red flowers.*)

2. *ORIGANUM Dictamnus* (*Dictamnus.*) Cretan Dittany of Mount Ida. (*Low undershrubby stalks, round thick leaves, the under ones hoary, and nodding spikes of purple flowers.*)

3. *ORIGANUM creticum*. Cretan aggregate-spiked Origany. (*Oval obtuse hoary leaves, and long aggregate erect spikes of white flowers.*)

4. *ORIGANUM sipyleum*. Smooth Origanum of Mount Sipylus. (*Oval leaves smooth on both sides, and nodding spikes of purple flowers.*)

5. *ORIGANUM smyrnæum*. Umbelliferous Origanum of Smyrna. (*Ovalish, acute-serrated leaves, and umbellate clustered spikes of white flowers.*)

Most of these plants are strong aromatics of an agreeable fragrance, are retained as low bushy exotics, to diversify the green-house collection; flower in June, July, and August, and sometimes ripen seeds, by which they may be raised, sowed in April; also the shrubby kinds by slips and cuttings of the young shoots; the others by slipping their roots.

OSTEOSPERMUM. HARD-SEEDED CHRYSANTHEMUM. (*Syngenesiæ polygamia necessaria.*)

Consists of upright ornamental flowering shrubs of Africa, rising from three, four, or five, to six or eight feet high, furnished with oval and spear-shaped leaves, and compound radiated yellow flowers, terminating the branches in clusters and singly; having a hemispherical, multifid, general cup, containing many funnel shaped male flrets in the disk, and flat tongue-shaped female ones in the radius; five filaments, a globular germen, slender style, and a single roundish or oval seed to each female floret, as hard as bone.

The species are,

1. *OSTEOSPERMUM moniliferum*. Moniliferous Poplar-leaved Ethiopian Osteospermum. (*Oval, serrated, thick hoary, somewhat decurrent leaves, having stout stalks.*)

2. *OSTEOSPERMUM pififerum*. Pififerous Cape Osteospermum. (*Spear-shaped, sharp-pointed, smooth, serrated leaves.*)

3. *OSTEOSPERMUM spinosum*. Thorny African Osteospermum. (*Branching spines, and oblong narrow viscid leaves.*)

4. *OSTEOSPERMUM Polygaloides* (*Polygaloides.*) Imbricated polygaloid African Osteospermum. (*Spear-shaped, smooth, entire, almost imbricated decurrent leaves.*)

5. *OSTEOSPERMUM ilicifolium*. Holly-leaved Cape Osteospermum. (*Oblong, angulated, dentated, rough amplexicaul leaves.*)

These,

These, being all tender exotics of Africa, are retained here in pots among the green-house plants for variety and observation; they flower conspicuously in the summer months, sometimes ripening seeds for sowing; and may also raise them plenteously by cuttings and layers, in spring and summer.

OTHONNA, RAGWORT. (*Syngenesia polygamia necessaria.*)

It furnishes moderate evergreen flowering shrubs, and undershrubby kinds, exotics from Africa, half a yard, to three, four, or five feet high, or more, and some of creeping growth, ornamented with multifid, or finely cut, many-parted-pinnatifid, and spear-shaped, and oval entire leaves, and compound radiated yellow flowers at the sides and ends of the branches; having the general cups cut in eight or twelve parts, including numerous tubular male florets in the disk, and flat female ones in the circumference; five filaments, oblong germen, one style, and in each female floret in the radius, an oblong seed, crowned with down.

The principal species are,

1. OTHONNA *pectinata*. Pectinated, or jagged African Ragwort. (*Oblong pinnatifid hoary leaves, finely cut pinnatifidly into many linear parallel segments, pectinated-ways, like the teeth of a comb.*)

2. OTHONNA *abrotanifolia*. Southernwood-leaved Æthiopian Ragwort. (*Jointed hairy stalk and thick leaves, finely multifid pinnated, into linear segments.*)

3. OTHONNA *coronopifolia*. Buck's-horn-plantain-leaved Ragwort. (*Spear shaped entire lower leaves and the upper ones sinuated-dentated*)

4. OTHONNA *arborescens*. Tree Æthiopian Ragwort. (*Tree-like stalk, ob-oval entire leaves, and singular flowers.*)

5. OTHONNA *cheirifolia*. Wall flower-leaved creeping African Ragwort. (*Undershrubby creeping rooting stalks, and spear-shaped, trinervous, entire leaves.*)

6. OTHONNA *bulbosa*. Bulbous, Æthiopian Ragwort. (*Herbaceous-like stalks, oblongish, wedge-shaped, naked, petiolated leaves, and long peduncles, sustaining each one flower.*)

Varieties,

*Egg-oval, entire leaved.**Radical, pinnated leaved.**Narrow, linear leaved.**Spear-shaped, entire leaved.**Spear-shaped, indented leaved.**Spear shaped-almost-elliptic leaved.**Almost spear-shaped, indented leaved.**Shrubby, with spear-pointed leaves, sitting close.**Shrubby, with alternate, spear shaped, dentated leaves.*

These plants afford a pleasing variety in the green-house collection, and flower ornamentally several months in summer, and are chiefly propagated by cuttings of the young shoots.

OXALIS (Oxalis.) WOOD SORREL. *Decandria pentagynia*).

This genus furnishes for the green-house some bulbous-rooted flowery perennials from Africa, rising with robust stalks, from six or eight, to ten or twelve inches high, garnished with trifoliate leaves, of three roundish and heart-shaped folioles, and largish bell-shaped purple, and yellow flowers, having five-lobed cups, a monopetalous corolla of five acute segments, ten stamina, a pentangular germen with five styles, succeeded by pentagonous, quinquelocular, elastic capsules with roundish seeds.

The species are,

1. *OXALIS incarnata*. Flesh-coloured Oxalis. (Somewhat branching, bulb-bearing stalk, trifoliate leaves in whirls, with heart-shaped lobes; and peduncles having purpleish and white flowers.)

2. *OXALIS flava*. Yellow Oxalis. (Trifoliate leaves, with the lobes divided in two, and stalks having one yellow flower.)

3. *OXALIS purpurea*. Purple Oxalis. (Trifoliate, undivided ciliated leaves, and stalks supporting one large purple flower.)

4. *OXALIS Pes-capræ* (*Pes-capræ*.) Umbelliferous yellow Oxalis. (Ternate leaves, with heart shaped lobes, mostly two-parted, and stalks having many large yellow flowers in an umbel.)

5. *OXALIS versicolor*. Variable-coloured Oxalis. (Branchy stalk, leaves in whirls, with linear, emarginated lobes,

lobes, and peduncles having one large reddish and yellow flower.)

These plants demand observation to encrease the variety of the herbaceous flowery exotics of the green-house; they flower in spring and summer in the different sorts, and are propagated by off-sets of the root, when the leaves decay.

P.

PASSERINA, SPARROW-WORT. (*Oxandria monogynia*.)

A genus of evergreen shrubs from Africa, with downy mealy stalks and branches, growing five or six feet high in the first five or six sorts, and the last about half a yard; mostly branching diffusely almost from the bottom; closely garnished with small fleshy, narrow linear, and spear-shaped and oval leaves, and many small, withered-like, tubular, white and purple flowers along the sides and ends of the branches; having no cups, a monopetalous corolla, with a cylindric swelling tube, four-parted above, eight bristly filaments, oval germen, slender style, and an oval, leathery, unilocular, one-seeded capsule.

The species are,

1. *PASSERINA filiformis*. Filiforme linear-leaved Passerina. (Downy branches, linear, very narrow, convex leaves closely imbricated four ways.)

2. *PASSERINA hirsuta*. Hairy shaggy Passerina. (Downy shaggy stalks, short, thick, fleshy leaves, smooth outward.)

3. *PASSERINA ciliata*. Ciliated-leaved Æthiopian and Spanish Passerina. (Naked branches, and spear-shaped, ciliated, erect leaves.)

4. *PASSERINA sericea*. Silky Passerina. (Hairy stalk, ovate, tomentose silky leaves, and quaternate flowers.)

5. *PASSERINA dodecandria*. Dodecandrious-flowered Passerina. (Spear shaped, acuminate smooth leaves, laid close to the stem, and flowers having sometimes twelve stamina.)

6. *PASSERINA lævigata*. Polished smooth-leaved Passerina. (Ovate, acute, smooth, plane leaves, and obtuse flowers.)

7. *PASSERINA capitata*. Capitated-flowered Passerina. (*Spear-shaped, linear smooth leaves, and flowers growing in heads.*)

8. *PASSERINA uniflora*. Uniflorous, or one-flowered Passerina. (*Smooth branches, linear opposite leaves, and flowers terminating the branches singly.*)

These plants exhibit an agreeable singularity, and make a pretty variety in the green house: the first species particularly is in most estimation, and the most commonly retained in the English collections, and are all propagated by layers and cuttings, in spring and summer, covering the cuttings close with a hand-glass, or assisted by a hot bed.

PASSIFLORA, PASSION-FLOWER. (*Gynandria pentandria.*)

Furnishes for the green-house two herbaceous perennials, rising with slender-cirrhose-climbing stalks, three, four, or five feet high, furnished with divided, three-lobed leaves, attended by tendrils, and large spreading flowers on long footstalks singly; having a large three-lobed involucre, five-lobed calix, five large half spear-shaped spreading petals, enclosing a circular multipartite fringed, radiated, triple nectarium, five gynandrous spreading filaments, attached to a column crowned by the germen, with three styles; succeeded by an oval fleshy fruit, with many seeds.

The species are,

1. *PASSIFLORA incarnata*. Flesh-coloured Virginia Passion-Flower. (*Leaves divided into three ovalish sawed lobes; flowers having a reddish or purple nectarium, and large, round, orange-coloured fruit.*)

2. *PASSIFLORA lutea*. Yellow Virginian Passion-Flower. (*Leaves divided into three equal heart-shaped, smooth, entire lobes, and small yellowish flowers.*)

Plant them in pots of common earth, and place stakes for the support of their climbing stalks; giving them the shelter of a green-house or garden-frame in winter, and they will flower annually in summer, each flower but of one day's duration; and are succeeded by large, round fruit (not eatable) but very ornamental in the first sort particularly.

They

They are propagated by seed, cuttings, and layers of the shoots, and parting the roots.

Let the seed be sowed in pots in the spring, and plunged in a hot-bed, to forward their vegetation; the cuttings and layers in summer, will root the same year; and take off slips from the root in the spring.

PERIPLOCA, VIRGINIA SILK. (*Pentandria digynia.*)

For the green-house is one woody volubilate climber, twining round support, a yard or more high; with oval leaves, and wheel-shaped purple flowers in clusters; having five-parted cups, a monopetalous, rotated, plane corolla divided in five segments, five stamina, two styles, and two oblong bellied folliculus, having many downy seeds.

The species is,

PERIPLOCA *africana*. African hairy-stalked Periploca. (*A volubilate climbing hairy stalk, ob-oval opposite leaves.*)

Varieties.

Smooth stalked Periploca.

Sinuately leaved Periploca.

Propagate it by layers in spring and summer; also by cuttings in a hot-bed; plant them afterwards in separate pots, and place a stake to each, for the stalks to climb upon.

PHLOMIS (*Phlomis.*) JERUSALEM SAGE, and LEONURUS. (*Didynamia gymnospermia.*)

This genus admits of some ornamental flowering evergreen shrub and undershrubby kinds, from about three, to six or eight feet high, adorned with spear-shaped, and oval and oblong heart formed leaves, and beautiful scarlet and purple flowers of the labiated kind, disposed in whirls around the upper end of the shoots, having tubulose, pentangular, and decemangular, persistent cups, a monopetalous, oblong, tubular, grinning corolla, two long and two short stamina, quadrifid germen, single style, and four naked seeds in the permanent calix.

The species are,

1. PHLOMIS *Leonurus* (*Leonurus.*) Shrubby African scarlet Leonurus, or Lion's Tail. (*Spear-shaped, serrated leaves, ten angled flower-cups, indented in ten parts, and fine scarlet flowers.*)

2. *PELOMIS nepetifolia*. Catmint-leaved Surinam Leonurus. (Undershrubby stalks, egg-oval opposite leaves, and ten-angled flower-cups, indented into seven unequal parts, and scarlet flowers.)

3. *PELOMIS purpurea*. Purple Portugal Phlomis. (Undershrubby hoary stalks, heart-shaped-oblong, hoary leaves, and purple flowers.)

The plants are admitted in all eminent green-house collections, particularly the first and second, which are greatly admired for the beauty of their verticillate scarlet flowers in autumn; and the *Phlomis purpurea* also, for its hoary aspect in its branches and leaves; which sort is likewise employed in the shrubberies; but being of a tender nature, should always retain some as green-house plants.

They are propagated by layers and cuttings of the young wood in spring and summer, in natural earth, or the cuttings forwarded in a hot-bed.

PHYLICA, BASTARD ALATERNUS, OR AFRICAN HEATH. (*Pentandria monogynia*.)

A genus of the undershrubby and shrubby small leaved African exotics, of from two or three, to five or six feet stature, and of very branchy bushy growth; very closely adorned with short, minute, linear and oval, and heart-shaped leaves, and many tubulose white flowers collected in clusters and heads at the end of the shoots, having triphyllous permanent cups, a monopetalous corolla, with an erect conical tube, five-parted in the brim, five stamina, one style, and a roundish, trilobate, trilocular capsule, with three seeds.

The species are,

1. *PHYLICA ericoides*. Heath-leaved Phylica, or African Heath. (Small narrow linear leaves in verticilli, or whorls, and clusters of white flowers.)

2. *PHYLICA buxifolia*. Box-leaved Æthiopian Phylica. (Egg-oval leaves, downy underneath, placed scattering, and by threes.)

3. *PHYLICA plumosa*. Plumose-flowered Æthiopian Phylica. (Awl-shaped, linear, hairy-pointed leaves, and downy heads of flowers.)

4. *PHYLICA cordata*. Heart-leaved Cape Phylica. (Proliferous stalks, heart-shaped-oval spreading leaves.)

5. *PHY-*

5. *PHYLICA radiata*. Radiated Cape Phylica. (*Hairy stalks, linear three-square leaves, placed sparsely.*)

6. *PHYLICA dioica*. Dioecious-flowered Cape Phylica. (*Heart-shaped leaves, and dioecious flowers.*)

They are mostly evergreen; flower in autumn and winter, often continuing till spring; the first two or three species are the principal sorts in the English collections, and the *Phylica ericoides* most of all; they being all ornamental little shrubs, continue flowering in long succession, form a desirable variety; and are easily propagated by cuttings in the spring, assisted by a hot-bed, or in the natural earth in summer, covered down with a hand-glass; also by layers.

PHYLLIS (*Bupleuroides*) BASTARD HARE'S-EAR. (*Pentandria digynia.*)

This genus admits of shrubby ornamental evergreen exotics from Asia, rising with soft ligneous-jointed greenish stalks, two or three feet high; adorned with beautiful spear-shaped and oblong shining leaves the year round, and the branches terminated by small pentapetalous, whitish-purple, reflexed flowers in panicles, having small two leaved cups, five spear-shaped, reflexed petals, five stamina, a turbinate germen with two stigmas, and an oblong angular fruit, having two seeds.

The species are,

1. *PHYLLIS nobla* (*Simpla nobla.*) Canary Bastard Hare's-Ear. (*Spear-shaped leaves, with indented stipula.*)

2. *PHYLLIS indica*. Indian Bastard Hare's-Ear. (*Ob-long leaves, with entire stipula*)

They are a handsome variety as evergreens; flower in June or July, and ripen seed in autumn, by which the plants may be raised, sowed in March or April, in a warm border, or forwarded in a hot-bed, and by which also may raise them by cuttings.

PHYSALIS, WINTER CHERRY. (*Pentandria monogynia.*)

It affords for the green-house two moderate shrubby exotics of India, ornamental both as evergreens, and in their cherry-like berries in autumn and winter; growing from three or four, to five feet high; with straight erect, and flexible branches, garnished with oval-spear-shaped, and oblong leaves, and small wheel shaped, quinquefid,

whitish flowers, in clusters along the sides of the branches, having monophyllous, pentangular, five-pointed, persistent cups, a monopetalous rotated corolla, five parted and spreading in the brim; five stamina, roundish germen, and filiform style, the germen succeeding to a roundish, bilocular, many-seeded berry, retained in the pentagonous swollen calix.

The species are,

1. *PHYSALIS somnifera*. Somniferous Mexican Winter Cherry. (*Shrubby stalk, erect branches, oval entire leaves, and flowers in clusters*.)

2. *PHYSALIS flexuosa*. Flexuose Indian Winter Cherry. (*Shrubby stalk, flexible branches, oblongish leaves, and flowers in clusters.*)

They are worthy of observation in all good collections; they flower in summer, succeeded by ripe red and purple berries in autumn, remaining ornamentally in winter, and are easily raised by seed sowed in pots plunged in a hot-bed about March or April; also by cuttings in summer, by the same assistance.

PISTACIA. **PISTACHIA NUT, OR TURPENTINE-TREE.** (*Diœcia pentandria.*)

A genus of tree and shrub exotics, from the southern parts of Europe, Asia, &c. requiring protection of a green-house while young, or in severe winters; growing with upright branchy stems to a tree-like stature, some garnished with large trifoliolate, others with pinnated leaves, of from two to three or four pair of lobes, some terminated by an odd one, and some not, and small apetalous male and female greenish flowers on separate trees; collected, the male florets into loose scaly aments, and females in clusters, both without petals, five stamina in the males, and the females an oval germen, with three reflexed styles, and succeeded by an oval drupa, including an oval smooth nut, having eatable kernels.

The species are,

1. *PISTACIA trifolia*. Trifoliolate leaved Sicilian Pistachia Tree. (*Leaves composed mostly of three oval-roundish lobes, and sometimes of four.*)

2. *PISTACIA vera*. True Asiatic Pistachia, or Turpentine Tree. (*Pinnated leaves, with almost smooth, sub-oval, recurved lobes, terminated by an odd one.*)

3. *Pis-*

3. *PISTACIA Terebinthus* (*Terebinthus*.) Turpentine-Tree. (*Pinnated leaves, with oval-spear-shaped lobes, terminated by an odd one.*)

4. *PISTACIA narbonensis*. Narbonne Turpentine-Tree. (*Pinnated and trifoliate leaves, with nearly orbicular lobes.*)

5. *PISTACIA Lentiscus* (*Lentiscus*.) The Lentiscus, or Mastick Tree. (*Abrupt pinnated leaves, with spear-shaped lobes, not terminated by an odd one.*)

These trees are retained both as green-house plants, and for the shrubbery, in a warm situation, particularly the first four species; but being tender, should always keep some in pots, and sheltered in a green-house in winter, and will effect a distinguishable variety among the exotics of that conservatory; they flower in summer, but rarely ripen fruit perfectly in England.

They are propagated by seed and layers.

The seed or nuts obtained from abroad sow in March, or April, in pots plunged in a hot-bed, just to raise the plants an inch or two high.

And layers of the young shoots in spring and summer, will root the same year.

POLYGALA. MILKWORT. (*Diadelphia octandria*.)

This is a comprehensive genus, which furnishes some shrubby ornamental ever-greens of Africa for the green-house collection, rising four or five feet high, branching diffusely; garnished with small oblong and oval leaves, and large irregular papilionaceous-like white and purple flowers, having three leaved cups, a papilionaceous corolla, with large plane oval wings, short tubulose vexillum, and concave keel, eight diadelphous stamina, oblong germen, erect style, and a heart-shaped bilocular capsule, with two oval seeds.

The species are,

1. *POLYGALA myrtifolia*. Myrtle-leaved Æthiopian Milkwort. (*Shrubby stalk, oblong, obtuse, smooth shining leaves, and crested or tufted flowers, with a lunulate, or half-moon carina.*)

2. *POLYGALA microphylla*. Minute-leaved Portugal Milkwort. (*Undershrubby stalks, minute, oval, acule-pointed leaves, and racemous clusters of flowers.*)

3. POLY-

3. *POLYGALA spinosa*. Thorny African Milkwort. (*Tree-like thorny stalk, oval sharp-pointed leaves, and lateral flowers.*)

4. *POLYGALA chinensis*. Chinese undershrubby Milkwork. (*Undershrubby, decumbent short stalks, ovalish leaves, and axillary spikes of flowers.*)

POLYGALA Heisteria (*Heisteria*.) Triangular-thorny-leaved African Milkwort. (*Tree-like stalks, three-sided, sharp thorny-pointed leaves.*)

Of the above species, the first sort is the principal one in the English green-house collections, being a beautiful little shrub, very closely garnished with leaves, and it flowers very ornamentally great part of summer, the flowers large, white without, and purple within.

They are raised from seed sowed in autumn or spring in pots, defended from inclement weather, or forwarded in a hot bed in March; also by cuttings, assisted by artificial heat.

POTERIUM (*Burnet*) SHRUBBY BURNET. (*Monocia polyandria*.)

For the green-house is one low shrubby thorny ever-green, two or three feet high; with pinnated leaves of several pair of lobes, and an odd one; and terminal heads of greenish male and female flowers on the same spike, having three-leaved cups, a four parted permanent corolla, numerous filaments, two germina and styles; succeeded by a two-seeded berry, inclosed in the persistent corolla.

The species is,

POTERIUM spinosum. Spinous shrubby Burnet of Crete. (*Shrubby thorny branches.*)

It is retained in all curious green-house collections, and is easily propagated by slips and cuttings, in spring and summer.

PRASIUM. SHRUBBY HEDGE-NETTLE. (*Didymia gymnospermia*.)

This genus consists of two low ever-green Italian shrubs, of two or three feet growth, with whitish stalks, dividing into many branches, garnished with oblong and oval leaves, and white flowers of the lip kind, disposed in whirls, having bell-shaped, bilabiated, five-pointed cups, a monopetalous ringent corolla, two long, two short filaments,

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filaments, four pointed germen, single style, and four naked seeds.

The species are,

1. *PRASIUM majus*. Major shrubby Hedge-Nettle of Sicily. (*Oval oblong serrated leaves.*)

2. *PRASIUM minus*. Minor shrubby Sicilian Hedge-Nettle. (*Egg-oval, doubly crenated leaves.*)

These two species deserve a place in the green-house collection to encrease the variety; they flower in summer, and ripen seeds in autumn, by which they may be raised, sowed in a bed of common earth in April; also by slips and cuttings in the same season.

PRINOS. WINTER Berry. (*Hexandria monogynia.*)

A handsome bushy ever-green shrub from America, requiring protection of a green-house in severe winters; grows eight or ten feet high, furnished with spear-shaped leaves, and purple flowers at the axillas, having six-parted cups, a wheel-shaped corolla, cut in five or six oval segments; six stamina, oval germen, one style, and roundish berries, with six seeds.

The species is,

PRINOS glaber. Smooth American Winter Berry. (*Lanceolate, alternate, ever-green leaves, sawed on the apex.*)

This plant, though employed also to adorn the shrubbery, should always retain some in pots as a green-house plant; and is raised from seed, and by cuttings and layers, which may be assisted by a hot-bed.

PROTEA. SILVER TREE. (*Tetrandria monogynia.*)

Consists of two remarkable ornamental silvery ever-greens, of the woody shrub-like tribe from Africa, rising with strong upright stems, branching out into a large regular head, eight or ten feet high; decorated with singular spear-shaped, white silky silvery leaves, of a beautiful appearance, and small flowers, collected in oval heads, having a general imbricated cup, containing many monopetalous tubulose florets, four-parted, and spreading above; four stamina, a roundish germen with one style, succeeded by roundish seed in a conic head.

The species are,

1. *PROTEA argentea*. Common Silvery Tree, or Verticillate Cape Protea. (*Broad spear-shaped, acute, hairy-silky,*

filky, white silvery leaves, plane and oblique, and flowers in a verticillus.)

3. *PROTEA conifera*. Cone-bearing Cape Protea. (*Linear-lanceolate, entire, acute, smooth, shining, silvery leaves, and conic heads of flowers and seed.*)

These elegant plants have great merit for their singular silvery leaves, forming a beautiful variety the year round; highly deserve observation in all green-house collections, and are propagated by seed in spring, sowed in pots plunged in a moderate hot-bed; also by cuttings by the same assistance.

PSORALEA (Pso'ra'lea.) (Diadelphia decandria.)

Consists of exotic shrubs from Africa, and the southern parts of Europe, growing from two or three, to six feet, according to the different species: ornamented with pinnated and trifoliate leaves, and papilionaceous blue flowers, at the axillas and termination of the branches, having monophyllous cups cut in five parts, the lower segments the longest; a pentapetalous corolla, composed of a roundish vexillum, moon-shaped wings and keel, ten diadelphous stamina, a linear germen, subulate style, and compressed pod, with one seed.

The chief species are,

1. *PSORALEA pinnata*. Pinnated African Pso'ra'lea. (*Pinnated, linear leaves, and flowers from the axillas of the branches.*)

2. *PSORALEA aculeata*. Prickly African Pso'ra'lea. (*Trifoliate leaves, with wedge-shaped, sharp-pointed, recurved folioles, and terminal flowers in heads.*)

3. *PSORALEA cytisoides*. Cytisoid Cape Pso'ra'lea. (*Pinnated five and three lobed leaves, and axillary clusters of flowers.*)

4. *PSORALEA bituminosa*. Bituminous Italian Pso'ra'lea. (*Entirely trifoliate leaves, and flowers disposed in heads.*)

Variety,

Narrow-leaved bituminous Pso'ra'lea.

5. *PSORALEA hirta*. Hairy African Pso'ra'lea. (*Trifoliate leaves, with ovalish, sharp-pointed recurved lobes, and flowers by threes.*)

They furnish an eligible variety in the green-house collection; flower annually great part of summer, and ripen seed

seed in autumn, by which they may be raised in a hot-bed in the spring; also by cuttings the same way, or covered with a hand-glass.

PUNICA, POMEGRANATE-TREE. (*Icosandria monogynia.*)

It consists of moderate tree and shrub kinds, furnished with narrow leaves, and smallish pentapetalous red flowers, having twenty or more stamina, a roundish germen, one style, and small roundish apple-shaped fruit of nine cells, and numerous succulent seeds.

The species are,

1. **PUNICA Granatum** (*Granatum.*) Common Pomegranate-tree. See the Hardy Trees.

2. ———— (*Double flowered.*)

3. **PUNICA nana.** Dwarf American Pomegranate. (*Shrubby stalk, and narrow linear short leaves.*)

They deserve notice as ornamental flowering shrubs, flowering beautifully in summer and autumn; and are propagated by layers.

R.

RHUS. SUMACH and TOXICODENDRON. (*Pentandria trigynia.*)

For the green-house, are some largish ever-green shrubs from Africa, rising from five or six, to eight or ten feet high, with trifoliate or three-lobed leaves, and small, pentapetalous, spreading, whitish-green flowers in bunches, having monophyllous cups cut in five parts, five oval spreading petals, five stamina, a large roundish germen, three scarcely visible styles, crowned with heart-shaped stigmas, and the germen becomes a roundish unilocular berry, having one seed.

The species are,

1. **RHUS tomentosum.** Downy African Sumach. (*Trifoliate leaves, with petiolated, angular-rhomboidal lobes, downy underneath.*)

2. **RHUS lucidum.** Shining-leaved African Sumach. (*Trifoliate leaves having sessile, wedged-shaped, smooth lobes.*)

3. **RHUS angustifolium.** Narrow-leaved Æthiopian Sumach. (*Trifoliate leaves, having petiolated, narrow-linear lanceolate, entire folicles, downy underneath.*)

4. **RHUS incanum.** Hoary African Sumach. (*Trifoliate leaves, with oval entire lobes, hoary underneath.*)

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All these shrubs are very eligible for diversifying the green-house collection, principally as elegant evergreens; the flowers have but little beauty, and are all easily propagated by layers; also by cuttings in pots, plunged in a hot-bed.

ROSA, (ROSE-TREE) CHINA ROSE. (*Icosandria polygynia.*)

For the green-house, is one exotic shrub kind from India, of the rose tribe, with almost smooth, or thornless branches, and pinnated five-lobed leaves, and large pentapetalous, rosaceous flowers on long footstalks, having long five-parted cups, five heart-shaped petals, twenty or more stamina, many germina and styles, and the fleshy base of the calix becomes a roundish, unilocular berry, with numerous seeds. See the *Hardy Roses*.

Rosa indica. Indian, or China Rose. (*Almost smooth or unarmed branches, prickly petioles of the leaves, and oval smooth germina, and smooth peduncles.*)

Retain it always in pots among the green-house exotics, and propagate it by suckers and layers, and by budding upon the common Rose stocks; also by seeds.

ROSMARINUS, ROSEMARY, STRIPED ROSEMARY. (*Diandria monogynia.*)

Of the common Rosemary there are some striped-varieties of the ever-green shrub kind, that require shelter of a green-house in severe winters; garnished with long narrow stiff leaves, and many small tubulose, ringent flowers, with two stamina, one style, and four oval seeds. See the *Hardy Species*.

The varieties are,

Silver-striped-leaved Rosemary.

Gold-striped-leaved Rosemary.

Let some plants of each variety be always retained in pots, and managed as green-house exotics: they are propagated by slips, cuttings, and layers in the spring.

ROYENA, (*Royena*) AFRICAN BLADDER-NUT. (*Decandria digynia.*)

Consists of largish ever-green shrubs from the Cape of Good Hope, rising with upright branchy stems, from four or five, to six or eight feet high; furnished with oval and lanceolate leaves, and quinquefid white and purple flowers along the sides of the branches; having

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bellied, five-lobed, permanent cups, a monopetalous corolla, tubulous below, divided above in five oval segments, ten short filaments crowned with didymous anthera, an oval germen supporting two styles, succeeded by an oval quadrivalved unilocular capsule, with four oblong triangular nuts.

The species are,

1. ROYENA *lucida*. Shining-leaved Royena. (*Egg-oval, somewhat roughish, shining-green leaves.*)
2. ROYENA *glabra*. Smooth Box-leaved Royena. (*Small lanceolate smooth leaves.*)
3. ROYENA *hirsuta*. Hairy Rosemary-leaved Royena. (*Small lanceolate, downy hairy leaves.*)

They make an agreeable variety all the year as ever-greens, and are propagated by cuttings of the young shoots in the spring, assisted by a hot-bed; also by layers of the shoots of the year in summer; and by seeds in pots, plunged in a hot-bed.

RUSCUS, (BUTCHER'S BROOM) ALEXANDRIAN LAUREL. (*Dioecia syngenesia.*)

Of this genus are some shrubby ever-greens that require shelter in rigorous winters, exotics of curious singularity, in bearing flowers and fruit on their leaves; rising with several ligneous-shrubby, plant green stems, adorned with small oblong-oval, stiff, shining-green leaves, and small male and female flowers on separate plants, disposed on the surface and edges of the leaves; having six-leaved cups, no petals, but an oval erect nectarium; three united spreading anthera in the males, and in the females an oval germen, with a cylindric style, succeeded by a globular trilocular berry, with two seeds.

The species are,

1. RUSCUS *Hypophyllum* (*Hypophyllum*.) Broad-leaved Italian Butcher's Broom, or Alexandrian Bay. (*Oblong-oval leaves, bearing flowers and fruit on their under surface.*)
3. RUSCUS *androgynus*. Androgynous Canary Ruscus. (*Oblong stiff leaves, bearing flowers and fruit on their margin.*)

These plants effect a curious variety in the singularity of their floriferous and fructiferous leaves; the *Ruscus Hypophyllum* is also employed occasionally as a shrubby plant;

plant; but both these species being of a tender nature, some plants of each of them should be retained in pots, for shelter in winter, and are increased by root off-sets and suckers; also by seed in pots, defended in bad weather.

S.

SALVIA, SAGE. (*Diandria monogynia.*)

It furnishes for the green-house several shrubby evergreen species, from South America, Africa, &c. of the Sage tribe, rising with shrubby stems and branchy heads, from three or four, to six or eight feet high; ornamented with oval, and roundish, and triangular downy leaves, and small ringent bilabiated, blue and yellow flowers in whirled spikes, terminating the branches; having monophyllous bilabiated cups, a monopetalous corolla, tubulous below, and ringent above; two stamina, quadrigermen, slender style, and four seeds resting in the calix.

The species for this place are,

1. *SALVIA mexicana*. Mexican shrubby Sage. (Egg-oval, sawed leaves, pointed at both ends.)
2. *SALVIA africana*. African shrubby Sage. (Roundish serrated, truncated leaves, and indented at the base.)
3. *SALVIA aurea*. Golden African Sage. (Roundish entire leaves, truncated and dentated at the base; and large golden-yellow flowers.)
4. *SALVIA pomifera*. Pomiferous, or App'le bearing Cretan Sage. (Lanceolate-oval, entire, slight'y-crenated leaves, and the branches often producing large protuberances as big as apples.)
3. *SALVIA canariensis*. Canary hastate-leaved Sage. (Triangular-oblongish hastated leaves, obtusely crenated.)

All these plants retaining their leaves the year round, form a distinguishable diversity in the green-house collections as ever-greens, and produce many spikes of flowers in summer; and are all expeditiously raised from slips or cuttings of the young shoots, in a hot-bed in the spring, or in a bed or pots of natural earth in summer.

SCABIOSA, SCABIOUS. (*Tetrandria monogynia.*)

For the green-house there are three or four under-shrubby and shrubby ornamental flowery perennials from the southern parts of Europe and Africa, &c. grows from two or three, to four or five feet high, adorned with spear shaped, and lanceolate-oval, and pinnated leaves, and close aggregate heads of small blue, reddish, and white flowers terminating the branches; each head composed of numerous small florets, all contained in one general, many-leaved, spreading cup, with each floret a partial calix; the florets monopetalous, tubulous, and cut in four or five parts; four stamina, slender style, and a single oblong seed to each floret, crowned with the calix.

The species are,

1. SCABIOSA cretica. Cretan shrubby Scabious. (*Shrubby stalk, spear shaped intire leaves in clusters, and quinquefid florets*)

Variety,

Auricula leaved, Cretan shrubby Scabious.

2. SCABIOSA africana. African shrubby Scabious. (*Shrubby stalk, ovalish-lanceolate cut leaves, and quinquefid florets.*)

Varieties,

Rough crenated-leaved.

Finely cut-leaved.

Woolly-leaved.

5. SCABIOSA rigida. Stiff-leaved Æthiopian Scabious. (*Lanceolate serrated leaves, and quadrifid, nearly-radiated flowers.*)

4. SCABIOSA argentea. Silvery pinnated leaved oriental Scabious. (*Pinnatedly-cut, silvery leaves, with spear-shaped lobes, smooth long naked peduncles, and quinquefid florets.*)

All these species deserve admittance in all eminent collections, to improve the variety; they will flower very ornamental in summer and autumn; and may be propagated plentifully by slips and cuttings in spring and summer.

SCHINUS, INDIAN MASTICK TREE. (*Dioecia decandria.*)

A genus consisting of two ever-green tree and shrub kinds, exotics from South America, growing eight or ten feet high, with winged or pinnated leaves of ten or twelve pair of folioles or lobes, terminated by an odd one;

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one; and male and female pentapetalous flowers on separate plants, in loose bunches at the end of the branches; having acutely five-parted cups, a corolla of five oval or oblong petals; ten spreading filaments, a roundish germen, with three oval stigmas, and a globose trilocular, three-seeded capsule.

The species are,

SCHINUS Molle (*Molle.*) Molle Tree of Clusius, or Peruvian Mastic Tree. (*Pinnated leaves, with several lobes, having the terminating lobe the longest.*)

2. SCHINUS Areira (*Areira.*) Brazilian Mastic Tree. (*Pinnated leaves, with the lobes entire, and of equal size.*)

Both these species are elegant ever-greens, exhibiting a pretty variety in their fine pinnated leaves; and are propagated by seed from abroad, and by cuttings, assisted by a hot-bed, and by layers of the young wood.

SCROPHULARIA, FIGWORT. (*Didynamia diandra.*)

In the green-house collection is retained some herbaceous and undershrubby ornamental flowery perennials, rising with four-cornered stalks three or four feet high; largish pinnated, and trifoliate and lanceolate leaves, and terminal and axillary clusters of tubulous bilabiate flowers, having monophyllous five-parted cups, a monopetalous irregular corolla, with a large globular tube, and ringent mouth cut in five parts; two long and two shorter stamens, an oval germen and one style, succeeded by a roundish bilocular, many-seeded capsule.

The species are,

1. SCROPHULARIA sambucifolia. Sambuca-leaved Spanish Figwort. (*Interrupted-pinnated leaves of five or seven cordate unequal folioles, and terminal clusters of red flowers.*)

Variety.

Portugal cut leaved, with a large flower.

2. SCROPHULARIA trifoliata. Trifoliate African Figwort. (*Smooth leaves, the lower ones trifoliate-pinnated, but the upper ones simple, and axillary peduncles, having three red flowers.*)

3. SCROPHULARIA frutescens. Undershrubby Portugal Figwort. (*Lignaceous stalks, lanceolate, obtusely-dentate serrated leaves, and bifid peduncles, with greenish flowers.*)

They

They flower annually in summer, which in the two first sorts are ornamental for six or eight weeks, and are raised from seeds sowed in March or April in a warm border, and by cuttings and slips.

SELAGO (*Selago.*) (*Didymia angiospermia.*)

A genus consisting of three ligneous undershrubby, and shrubby African exotics, rising with slender stalks and branches, from four or five, to six or seven feet high; garnished with thread-like and linear leaves, in radiated and verticillate clusters, and quinquefid spreading flowers, in terminal corymbus clusters and spikes; having quadrifid permanent cups, a monopetalous corolla, spreading above in five parts, two long and two short stamina, a roundish germen, with a single style, succeeded by a single seed involved in the corolla.

The species are,

1. SELAGO *corymbosa*. Corymbus-flowered Æthiopian Selago. (*Ligneous stalks, with spreading branches, filiform, or thread-shaped leaves in clusters from the same point, and multipart-corymbus clusters of pure white flowers.*)

2. SELAGO *pinastra*. Pine-tree leaved Cape Selago. (*Shrubby stalks, with alternate erect branches, long linear leaves in whirls; and hairy corymbus spikes of flowers.*)

3. SELAGO *spuria*. Spurious Selago. (*Linear denticulated leaves, and corymbus spikes of flowers.*)

They exhibit a singular variety in collections, and are propagated by layers of the young wood; also by cuttings in a hot bed, or covered down with a hand-glass.

SEMPERVIVUM (*Live ever.*) SEDUM, or HOUSE-LEEK. (*Dodecandria dodecagynia.*)

A genus of succulent plants, which furnishes for the green house collection some shrubby, succulent-stalked ever-greens, rising some with upright fleshy stalks and branches, in the first six or eight feet high; in the second about half a yard; terminated by large clustered heads of spear-shaped and retuse, thick fleshy leaves, and from the centre of the heads of the leaves, long pyramidal spikes of polypetalous, spreading yellow flowers; having multifid permanent cups, a corolla of from six, to ten or twelve spear-shaped petals, spreading every way in a radiated manner, twelve stamina, and twelve circular-placed germina, supporting twelve spreading styles, succeeded by the like number of oblong capsules, with many seeds.

The

The species are,

1. *SEMPERVIVUM arborescens*. Tree House-Leek, or Portugal Sedum. (*A tree-like smooth branchy stem, with all the branches terminated by close heads of spear-shaped fleshy leaves.*)

Varieties.

Common green-leaved.

Variegated-leaved.

Yellow-flowered.

White-flowered.

2. *SEMPERVIVUM canariensis*. Canary shrubby House-Leek. (*A shrubby short stalk, rugged with the rudiments of past-foliage, and the top crowned by a large globular head of retuse fleshy leaves.*)

3. *SEMPERVIVUM arachnoideum*. Cob-web Dwarf Sedum.

These plants exhibit a singular and very elegant variety the year round, and flower very ornamentally in large pyramidal spikes in summer and autumn, highly meriting observation in all eminent collections, and which, like other succulents, keep always in pots of light sandy, or dry rubbishy soil, very moderately watered in winter, but frequent and more abundant in summer, in dry weather.

Propagate the first and second by cuttings and slips of the side shoots and branches, in spring or summer, which may be much forwarded by aid of a hot-bed, or in summer will root freely in pots of natural earth; and the third sort by off-set heads.

Likewise all the sorts by seed sowed in autumn or spring, in pots of light compost, defended from frost and excessive rains, &c. under glasses.

SIDERITIS, IRON-WORT. (*Didynamia gymnospermia.*)

It furnishes for the green-house some under-shrubby and taller shrubby exotics from the south of Europe, Asia, and Africa, &c. rising with downy stalks, from one or two feet, to five or six feet high, according to the different species: adorned with lanceolate, heart-shaped, and oblong downy leaves, and tubular, labiate, or lip-flowers, terminating the branches in whirled spikes, having tubulose five-lobed cups, monopetalous tubulous corolla, with trifid and bifid lips, two long, and two short stamina, a four-pointed germen, single style, and four naked seeds.

The

The green-house species are,

1. *SIDERITIS syriaca*. Syrian undershrubby Iron-Wort. (Undershrubby, low, downy-woolly stalks, spear-shaped entire leaves, and yellow flowers in a verticillus.)

2. *SIDERITIS canariensis*. Canary shrubby Iron-Wort. (Shrubby, taller, hairy, downy stalks, large heart-shaped, oblongish, woolly, acute leaves, and verticillate spikes of whitish flowers.)

3. *SIDERITIS cretica*. Cretan shrubby Iron-Wort. (Shrubby, downy stalks, with di-varicated branches; heart-shaped, oblong, obtuse, downy leaves, and verticillate spikes of flowers.)

These plants are retained in green-house collections to improve the variety; they flower in June and July, &c. and ripen seeds in autumn, by which they may be raised, sowed in autumn or spring in pots; also by cuttings and slips, forwarded in a hot-bed.

SIDEROXYLON, IRON-WOOD. (*Pentandria monogynia*.)

A genus of noted shrub kinds, furnishing two eminent evergreen exotics from Africa and Asia for the green-house and stove, remarkable for their very hard and ponderous wood; assume a shrub-like growth six or eight feet high; adorned with large and smallish firm oval leaves, and wheel-shaped flowers, with five-lobed cups, a monopetalous rotated, five-parted corolla, five stamina, roundish germen, one style, and a roundish unilocular berry, including an oval nut.

The species are,

1. *SIDEROXYLON inerme*. Unarmed or Thornless Æthiopian Iron-Wood. (Shrubby stems without thorns, and large oblong-oval leaves.)

2. *SIDEROXYLON spinosum*. Thorny Malabarian Iron-Wood. (Thorny stems, and smaller oblong oval leaves.)

Both these shrubs being natives of hot countries, are often retained here in hot-houses; but, in default thereof, they will also succeed tolerably under the protection of a good green-house in winter, and are raised from seed from abroad, sowed in pots in the spring, and plunged in a hot-bed; as also by layers and cuttings, by the like assistance.

SILENE, VISCOUS CAMPION. (*Decandria trigynia.*)

Consists of two ligneous-shrubby and herbaceous exotics from Italy and Africa, rising from two or three, to five or six feet high in the different species, garnished with spear-shaped and oblong spoon-shaped leaves, and terminal bunches of pentapetalous greenish white flowers, having quinquedentate cups, five plane obtuse petals, ten stamina, cylindric germen with three styles, succeeded by a cylindric trilobular capsule opening five ways at top, containing many kidney-shaped seeds.

The species are,

1. *SILENE fruticosa*. Shrubby Sicilian viscous Campion. (*Low shrubby stalks, broad spear-shaped leaves, and trichotomous panicles of flowers, with bifid petals.*)

2. *SILENE gigantea*. Giant African Silene. (*Obtuse spoon shaped radical leaves, tall upright viscous stalks, garnished with spear-shaped, almost verticillated leaves.*)

They flower in June and July, ripening seeds in autumn; the first sort is perennial, but the second is often biennial, and sometimes shrubby and durable, and are both easily raised from seeds sowed in the spring; the first also by slips and cuttings of the young shoots.

SMILAX, ROUGH BINDWEED. (*Diocia hexandria.*)

A genus of climbing, ligneous, bacciferous exotics, furnishing some tender kinds for the green-house, rising with climbing stalks, mounting by support many feet high; adorned with large heart-shaped and oval leaves, and small dioecious male and female apetalous flowers in axillary bunches, having bell-shaped, six leaved cups, no petals, six filaments, oval germen, three styles, and a globular trilobular berry, with two seeds.

The species are,

1. *SMILAX excelsa*. High climbing oriental Smilax. (*Angular prickly stalks, and heart-shaped, nine-nerved, dentated prickly leaves.*)

2. *SMILAX China* (*China radix.*) China Root, or China rough Bindweed, (*Cylindric prickly stalks, and oval heart-shaped, cinque-nerved smooth leaves.*)

3. *SMILAX Pseudo-China* (*Pseudo-China.*) Bastard China Root of Virginia. (*Cylindric unarmed smooth stalks, smooth heart-shaped cauline leaves, and egg-oval oblong, cinque-nerved ones on the branches.*)

All these plants have long slender stalks, climbing by tendrils to the tops of trees in their native soil; must have tall stalks for their support, and are easily propagated by layers, cuttings, and by slipping the roots.

SOLANUM, NIGHTSHADE. (*Pentandria monogynia*)

Consists of several eminent tender, shrubby, bacciferous exotics from Africa, Asia, and America, of upright branchy bushy growth, with straight slender greenish branches, from two or three, to four feet high, or more; garnished with lanceolate, oblong-oval and pinnatifid leaves, and small wheel-shaped white flowers in umbels, and singly along the sides of the branches; having monophyllous quinque-partite permanent cups, monopetalous rotaceous flowers spreading in five segments, five stamina, roundish germen, with a single style, succeeded by a round bilocular berry, having many round seeds.

The species are,

1. **SOLANUM Pseudo-capsicum** (*Pseudo-capsicum.*) Bastard Capsicum, or Amomum Plinii, commonly called Winter Cherry. (*Shrubby smooth erect stem and branches; long lanceolate repand leaves, and sessile umbels of white flowers, succeeded by cherry-like berries.*)

Varieties.

Common red-berried Winter Cherry.

Yellow berried Winter Cherry.

2. **SOLANUM sodomæum.** Apple of Sodom. *Pomum amoris*, or shrubby African Nightshade. (*Shrubby prickly stalks, ob-ovate, pinnatifid-sinuated obtuse, prickly leaves, and large apple-shaped yellow fruit.*)

3. **SOLANUM indicum.** Indian shrubby Nightshade. (*Shrubby prickly stalk, wedge-shaped angular, somewhat hairy entire leaves.*)

4. **SOLANUM verbascifolium.** Verbascum-leaved downy American Nightshade. (*Shrubby smooth stems, egg oval downy entire leaves, and compound umbels of flowers.*)

5. **SOLANUM tomentosum.** Woolly-leaved Æthiopian shrubby Nightshade. (*Shrubby prickly stems, heart-shaped, smooth woolly, somewhat repand leaves.*)

6. **SOLANUM guineense.** Guinea shrubby Nightshade. (*Shrubby unarmed smooth stems, egg oval entire leaves, and lateral thread-shaped peduncles*

7. *SOLANUM sanctum*. Palestine shrubby Nightshade. (*Shrubby prickly stems, oblique egg oval, repandous prickly downy leaves.*)

8. *SOLANUM quercifolium*. Oak-leaved Peruvian shrub. by Nightshade. (*Herbaceous angular flexuose, inermis, rough stalks, oblong pinnatifid leaves, and cymose clusters of flowers.*)

9. *SOLANUM bonariense*. Bonarian shrubby Nightshade. (*Somewhat shrubby stalks, and wedge-shaped sinuated leaves.*)

Of these species the first sort is the most noted, and more commonly cultivated than any of the others, for the beauty of its flowers and cherry-like berries, though all the sorts effect a conspicuous variety in their different foliage, flowers, and fruit; particularly in autumn and winter, when the fruit ripens, which exhibits a very ornamental diversity in assemblage.

They are all easily raised from seed sowed in March or April, half an inch deep, in pots of light earth plunged in a hot-bed; and when the seedling plants are two or three inches high. prick them singly in small pots, and forwarded also in a hot-bed; giving fresh air and water, and in June or July, fully exposed to the open air, and when they are advanced in growth, shift them into larger pots to remain.

SOLDANELLA, *SOLDANEL*. (*Pentandria monogynia.*)

A low herbaceous fibrous-rooted perennial, sending up roundish kidney-shaped leaves on long foot-stalks, and between them the flower-stalk, four or five inches high, crowned with one, two, or many bell-shaped, finely cut, fringed blue or white flowers, with five stamina, a roundish germen, and one style, succeeded by an oval taper unilocular capsule, having many acute seeds.

There is but one species, viz.

SOLDANELLA alpina. Alpine Soldanel.

Varieties.

Uniflorous, or one-flowered Soldanel.

Multiflorous Soldanel.

Blue flowered Soldanel.

White-flowered Soldanel.

They flower in April and May, and the seeds ripen in summer, by which the plants may be raised; also by parting the roots in autumn or spring.

SPARTIUM, BROOM. (*Diadelphia decandria*.)

Of this genus there are some shrubby exotics, that require the shelter of a green-house in rigorous winters, and are of upright growth, rising from three or four, to six or eight feet high, with slender, angular, rushy, pliant branches and shoots, garnished with spear-shaped, oval, and trifoliate, thinly placed leaves, and large papilionaceous, white and yellow flowers in clusters, having tubulous heart-shaped cups, five petals, ten diadelphous stamina, oblong germen, awl-shaped style, and a long cylindric, bivalvous, unilocular pod, with roundish seeds.

The species for this place are,

1. SPARTIUM *monospermum*. Single-seeded white Spanish Broom. (*Angular silvery branches, spear-shaped leaves, lateral clusters of white flowers, and pods having but one seed*.)

Variety.

Yellow flowered

2. SPARTIUM *spinesum*. Prickly Italian Broom. (*Angular thorny branches, trifoliate leaves, and yellow flowers*.)

3. SPARTIUM *Scorpius* (*Scorpius*.) Spreading prickly Spanish Broom. (*Spreading thorny branches, egg-oval leaves, and yellow flowers*.)

4. SPARTIUM *angulatum*. Angular Eastern Broom. (*Sesangular branches, floriferous at the ends, and single and trifoliate leaves*.)

These shrubs effect a singular variety in their long rushy pliant shoots, and they flower very ornamentally in summer; but the first sort, *Spartium monospermum*, is likewise employed in the shrubbery, as are sometimes the other species in a warm situation, but being mostly of a tender temperature, it is proper to retain some plants of each sort in the green-house collection.

They are raised from seed sowed in March or April, half an inch deep, in a bed of light earth, or in pots plunged in a moderate hot-bed, to forward their germination; and occasionally by layers and cuttings.

STATICE, THRIFT, or SEA-PINK. (*Pentandria pentagynia*.)

It furnishes for the green-house some shrubby, under-shrubby, and herbaceous perennials and biennials that

require shelter in hard winters ; growing six or eight feet high, in the larger shrubby kinds ; the undershrubby sorts about one or two, the others from six or eight inches, to a foot or more high ; furnished mostly with lanceolate leaves, and terminal heads of funnel-shaped florets, being numerous small flowers, collected together into spiked and globular aggregates within one general cup, each floret having also its proper calix, the florets composed of five small petals, five stamina, and five styles, succeeded by a single seed to each floret.

The chief species are,

1. *STATICE fruticosa*. Shrubby Egyptian Sea-Pink. (*Erect shrubby stems. lanceolate vaginant leaves, and close-sitting heads of blue flowers.*)

2. *STATICE monopetala*. Monopetalous Sicilian Sea-Pink. (*Undershrubby leafy stalks, lanceolate vaginant leaves, and flowers placed singly.*)

3. *STATICE ferulacea*. Ferula-leaved Barbary Sea-Pink. (*Undershrubby branching stalk, the branchlets chaffy and imbricated, terminated by hairy bristles*.)

4. *STATICE speciosa*. Specious aggregate-flowered Sea-Pink. (*Spear-shaped sharp-pointed leaves, forked, two-edged flowerstalks, terminated by aggregate heads of flowers.*)

5. *STATICE tartarica*. Tartarian alternate-flowered Sea-Pink. (*Spear-shaped, sharp pointed leaves, forked flowerstalk, and spiked heads of flowers, placed alternate at a distance.*)

These plants form a very eligible variety in a collection, the shrubby and undershrubby kinds having ligneous durable stalks, the others are herbaceous, biennial, and sometimes perennial, and they all flower abundantly in summer and in autumn : and are propagated, the shrubby kinds by slips and cuttings, in April, May, and June ; likewise all the sorts by seed in the spring ; and the herbaceous kinds also by parting the roots, and cuttings of their stalks in summer.

STYRAX, STORAX TREE. (*Dodecandria monogynia.*)

Consists of but one species ; a woody, tree-like, gummiferous exotic from Italy, Syria, and most parts of the East, growing twelve or fifteen feet high, with numerous slender branches, garnished with moderate, ovalish, alternate

alternate leaves, and funnel-shaped white flowers in lateral bunches, having cylindric, quinque-dentate cups, monopetalous infundibuliforme corolla, spreading above in five obtuse segments, twelve to nineteen stamina, roundish germen, single style, and a roundish unilocular drupa containing two roundish nuts.

The species is,

STYRAX officinale. Common Storax Tree.

This is a fine aromatic tree; imparts a fragrant liquid gum by incision, of great value in medicine; is sometimes planted in the full ground, in a warm situation, but as it requires shelter in severe winters, keep some always in pots, as green-house plants.

It is raised by seeds from abroad, sowed in pots, and forwarded in a hot-bed, and try it also by layers and cuttings.

T.

TANACETUM (*Tansey*.) SHRUBBY TANSEY.
(*Syngenesia polygamia superflua*.)

It furnishes for the green-house some undershrubby and shrub exotics from Africa, of upright growth, from three or four, to six or eight feet high; garnished with pinnated and pinnatifid, finely-multifid leaves of many very narrow lobes, and the branches terminated by bunches of compound yellow flowers, being many small florets in one general imbricated cup, consisting of tubular hermaphrodite florets in the disk, and females in the radius; five stamina, slender style, and a single seed in each floret, placed naked in the convex receptacle.

The species are,

1. *TANACETUM suffruticosum*. Undershrubby Æthiopian Tansey. (*Undershrubby stalks, pinnated finely multifid leaves, of many linear, subdivided segments.*)

2. *TANACETUM crithmifolium*. Samphire-leaved shrubby Tansey. (*Shrubby stems, pinnated leaves, with linear entire pinnae, placed remote.*)

3. *TANACETUM frutescens*. Shrubby African Tansey. (*Shrubby stems, pinnatifid leaves, with spear-shaped, obtuse, entire segments.*)

These plants form a very agreeable variety all the year as ever-greens, in their finely-pinnated and multifid leaves, and continue flowering ornamentally great part of summer and autumn; and are easily propagated by slips and cuttings of the young shoots in spring and summer; forwarding the spring planting in a hot-bed.

TARCHONANTHUS. SHRUBBY AFRICAN FLEABANE. (*Syngenia polygamia æqualis.*)

A genus consisting of but one species; a large ever-green, shrub-like exotic, growing twelve or fourteen feet high, with a woody stem, and branchy head, adorned with oblong-oval, sage-like leaves, and terminal spikes of compound purple flowers; having a turbinate hairy general cup, containing several funnel-shaped, five-parted hermaphrodite florets, with five filaments, oval germen, and single style, succeeded by an oblong downy seed, resting in the calix.

The species is,

TARCHONANTHUS *camphoratus.* Camphire scented African Fleabane.

This exotic is retained for variety as an ever-green; it flowers in autumn and winter; and is propagated by layers and cuttings.

TAXUS. YEW-TREE. (*Diocia monadelphica.*)

For the green-house is one species of the tree kind, a native of Japan, furnished with small narrow remote leaves, and male and female flowers on separate plants, as in the *Hardy Species*

TAXUS *nucifera.* Nuciferous, or Nut-bearing Yew-Tree of Japan. (*Narrow stiff leaves, placed at a distance.*)

Propagate it by cuttings and layers of the young shoots in spring, in pots plunged in a hot bed.

TETRAGONIA (*Tetragenia.*) (*Icosandra pentagonia.*)

A genus of shrubby and herbaceous succulent African exotics, consisting of two species, with succulent, somewhat reclinated stalks and branches, from two to three or four feet long, and furnished with narrow-linear and oval fleshy leaves, and a petalous yellowish flowers along the sides of the branches, having cups, consisting of four oval, coloured, persistent leaves, no petals, twenty

or

or more stamina, a quadrangular germen, with five styles, succeeded by a large tetragonous, leathery capsule, containing a quadrilocular nut, with four oblong hard kernels.

The species are,

1. *TETRAGONIA fruticosa*, Shrubby Tetragonia. (*Narrow linear succulent leaves, and ligneous succulent stalks, covered with crystalline pimples.*)

2. *TETRAGONIA herbacea*. Herbaceous Tetragonia. (*Egg-oval succulent leaves, weak herbaceous succulent stalks, and very thick fleshy roots.*)

These plants, like most of the succulent tribe, exhibit a curious singularity; agreeably diversifying the collection; flowering annually, the shrubby kind in summer, the other in spring; some times ripening seeds, by which they may be raised in a hot-bed in spring; also readily by cuttings of the young branches in natural earth, or forwarded in a hot-bed.

TEUCRIUM. TREE GERMANDER, MOUNTAIN POLY, &c. (*Didynamia gymnospermia.*)

It furnishes for the green-house several shrubby and under-shrubby exotics, mostly with downy stalks and branches, growing five or six feet high in the first two kinds, the other sorts from one, to two or three feet, garnished with oblong-oval, and rhomboid, mostly downy leaves, and small ringent, blue purple and reddish flowers at the sides and ends of the branches, having monophyllous, acutely five-parted cups, a monopetalous, tubulous corolla of the lip kind; two long, and two short filaments, a quadripartite germen, slender style, and four roundish naked seeds in the calix.

The species are,

1. *TEUCRIUM fruticans*. Shrubby, or Spanish Tree-Germander. (*Oblong-egg-oval, petiolated, entire leaves, hoary underneath, and uniflorous peduncles.*)

2. *TEUCRIUM latifolium*. Broad-leaved Spanish Tree-Germander. (*Broad rhomboid-shaped, acute hairy leaves, downy underneath.*)

3. *TEUCRIUM Marum* (*Marum.*) Common Marum, Syrian Mastick, or Cat-Thyme. (*Very small egg-oval entire leaves, pointed at both ends, and downy underneath; and clusters of flowers ranged on one side.*)

This plant is singular in being so greatly liked by cats, that they often destroy it.

4. *TEUCRIUM massiliense*. Marseilles under-shrubby Germander. (*Erect stalks, egg-oval acute-crenated, rough hoary leaves, and erect clusters of purple flowers.*)

5. *TEUCRIUM creticum*. Cretan narrow-leaved Mountain Poly. (*Narrow, linear, spear-shaped, entire leaves, and spiked clusters of flowers, with the flowers by threes.*)

6. *TEUCRIUM Polium* (*Polium*.) Shrubby Italian Mountain Poly. (*Trailing stalks, oblong obtuse, crenated, sessile, hoary leaves, and roundish heads of flowers.*)

Varieties.

Yellow flowered Mountain Poly.

White Mountain Poly.

Upright blue Mountain Poly.

Of these plants the first two sorts are of the shrub kind, the others mostly under-shrubby, and the *Polium* kinds are both of a ligneous and herbaceous nature, in the different varieties; they mostly all retain their leaves the year round, and very floriferous in summer, effecting a pretty variety in the green-house collection; they are also sometimes planted in the shrubbery, particularly the *Teucrium Polium*; but all the other species should be retained chiefly as green-house plants.

They are all easily propagated by slips and cuttings of the young shoots in spring, and early part of summer, in natural earth, or forwarded in a hot-bed, or under hand-glasses.

THEA, TEA TREE. (*Polyandria monogynia*.)

A genus consisting of two species of shrub-like Chinese trees, that require a moderate protection from severe frost in winter; are adorned with oblong-ovalish leaves, and hexapetalous and enneapetalous, polyandrious flowers, as illustrated in the genus *Thea*, among the *Hardy Trees*.

The species are,

1. *THEA bohea*. Bohea Tea Tree. (*Flowers composed of six petals.*)

2. *THEA viridis*. Green Tea Tree. (*Flowers composed of nine petals.*)

Both the species are retained in our gardens as great curiosities, some in the shrubbery, or planted against a warm wall, and some in pots, as green-house plants, to preserve

preserve them more effectually from the attacks of rigorous frosts; and are propagated by layers and cuttings.

THYMBRA. MOUNTAIN HYSSOP. (*Didynamia gymnospermia*.)

This genus is composed of two diminutive, under-shrubby, aromatic exotics, from six or eight inches, to a foot high; furnished with small, narrow, acute, and spear-shaped, opposite leaves, and the branches terminated by thick spikes, and verticillate clusters of small purple flowers of the ringent or lip kind, having stiff bilabiated cups, a monopetalous, two-lipped corolla; two long, and two short stamina; a four-parted germen, half-bifid style, and four naked seeds ripening in the calix.

The species are,

1. THYMBRA *spicata*. Spiked-flowered Macedonian Thymbra. (*Flowers growing in thick close spikes.*)

2. THYMBRA *verticilla*. Verticillate Spanish Thymbra. (*Flowers growing in a verticillus, or whirls.*)

They assume a bushy growth, flower in June and July, sometimes succeeded by ripe seeds, by which the plants may be raised, sowed in March or April, in a bed of rich earth; also by slips and cuttings of the shoots in the same season, and by root off sets.

THYMUS, THYME. (*Didynamia gymnospermia*.)

Comprises for the green-house some low under-shrubby aromatics of Spain, rising with slender, ligneous, bushy branches, a foot, or half a yard high, furnished with very small oval and linear leaves, and the branches terminated by verticillate spikes of minute ringent flowers, with bilabiated cups, a monopetalous bilabiated corolla; two long, and two short stamina, one style, and four naked seeds resting in the calix.

The species are,

1. THYMUS *Masticina* (*Masticina*.) Mastic Thyme. (*Small oval-obtuse leaves, and verticillate woolly spikes of flowers*.)

Varieties.

Red flowered.

White-flowered.

2. THYMUS *Zygis* (*Zygis*.) Shrubby narrow leaved Spanish Thyme. (*Undershrubby erect stalks, linear leaves aliated at the base, and verticillate spikes of flowers.*)

3. *THYMUS villosus*. Hairy bristly-leaved Portugal Thyme. (*Narrow bristly hairy leaves, and large imbricated heads of purple flowers.*)

4. *THYMUS cephalotes*. Large-headed Spanish Thyme. (*Spear-shaped leaves, and large round imbricated heads of white flowers, with oval bractea.*)

These plants are employed occasionally, both to diversify the fronts of shrubbery clumps, and the green-house collection; but as they are often much damaged by severe frost, it is eligible to retain some always in pots, as green-house plants; they may be raised from seed, sowed in March or April, and by slips of the shoots, in spring and summer, covered with a hand-glass, or in pots plunged in a hot-bed; and sometimes by root off-sets.

TRACHELIUM. THROAT-WORT. (*Pentandria monogynia.*)

A genus consisting of but one species; an herbaceous flowery perennial from Italy, &c. having fleshy fibrous roots, and upright stalks half a yard high, with oval leaves, and terminated by umbellate clusters of funnel-shaped, blue flowers, divided at the brim into five segments; five stamina, a roundish, triquetrous germen, and slender style, succeeded by a roundish, three-lobed, trivalvular, unilocular capsule, with numerous small seeds.

The species is,

TRACHELIUM caeruleum. Blue Italian Throat-wort.

It is employed both to decorate the flower-borders, &c. and the green-house collections, requiring protection from severe frost; and is raised from seeds, sowed as soon as ripe, in pots, or in March, in a bed of light earth.

TRICHOMANES. MAIDEN-HAIR FERN. (*Cryptogamia filices.*)

A genus of the Fern tribe, of which one species is retained in our green-house collections for variety; a singular frondose, herbaceous perennial, rising with a compound leafy stalk or frons, formed of the footstalk or mid-rib, of united compound leaves of the pennated kind, producing minute, imperfectly visible flowers and seeds, on the back of the leaves.

The species is,

TRICHOMANES canariense. Canary Maiden-hair Fern.
(*Fronds*)

(*Fronde* stalks, *supra-decompound* leaves, with *alternate* folioles, which are also *pennatifid* alternately.)

Plant the roots in pots of light earth in autumn or spring; and at which time you may propagate the plant by dividing the roots.

TRIOPTERIS (*Triopteris*.) (*Decandria trigynia*.)

A genus consisting of one climbing woody species of the West-Indies, furnished with oblong leaves, and yellow flowers of five petals, ten stamina, and three styles, succeeded by capsules with three seeds, having each a membranous wing.

The species is,

TRIOPTERIS jamaicensis. Jamaica *Triopteris*.

It is propagated by cuttings, assisted by a hot-bed; also by layers; likewise by seed from abroad.

TROPÆOLUM. INDIAN CRESS, or NASTURTium. (*Oslandia monogynia*.)

It furnishes herbaceous flowery annuals and perennials, with long trailing stalks, of several feet in length; adorned with large orbicular-lobated peltated leaves, and numerous large irregular yellow flowers from the axillas of the stalks; having monophyllous, acutely-five-parted, spreading deciduous cups, a corolla of five unequal petals, the two upper ones large, and the three lower ones narrow, terminated behind in long extended tails; eight stamina, a trilobate germen, supporting a single style, succeeded by three roundish, convex furrowed berries, with three seeds.

The species for the green-house is,

TROPÆOLUM majus. Major, or Greater Peruvian Nasturtium. (*Orbicular, almost five-lobed leaves, and flowers with obtuse petals.*)

Variety.

Double-flowered Nasturtium major.

There are some other varieties, but it is the double kind only which is retained as a green-house plant, commonly called *Double Nasturtium*, admired for the beauty of its large double flowers, in which the petals are multiplied exceedingly, and appear in great abundance all summer and autumn; and the plants being potted, and having the shelter of a green-house in the winter, and the stems supported, they remain durable in root and stalks, retain

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retain their leaves, and continue flowering great part of the year, exhibiting an agreeable variety.

As this variety produces no seed, it is propagated by cuttings of the stalks, any time from April till June or July, in pots of light earth, or may be forwarded in a hot-bed.

U.

ULEX. FURZE. (*Diadelphia decandria.*)

Furnishes for the green-house a shrubby African exotic, four or five feet high, with thorny branches, small obtuse leaves, and papilionaceous flowers with five petals, ten diadelphous stamina, a cylindric germen, and rising style, succeeded by an oblong turgid pod, containing roundish seeds.

The species is,

ULEX capensis. Cape, or African Furze. (*Obtuse leaves placed singly; and single spines terminating the branches.*)

It is retained in eminent green-house collections for variety, and is raised from seed obtained from abroad, sowed in pots in spring, and plunged in a hot-bed; also by cuttings by the same means; and by layers.

V.

VERBENA. VERVAIN. (*Diandria monogynia.*)

A genus of herbaceous plants, furnishing one fibrous rooted tall flowery perennial for the green-house, rising with quadrangular stalks five or six feet high; garnished with lanceolate leaves, and terminated by spikes of blue flowers; having angular, tubulous, quinque-dentated cups, a monopetalous, cylindric, tubular, five-pointed corolla, two or four stamina, a four-cornered germen, single style, and seeds lodged in the calix.

The species is,

VERBENA bonariensis. Tall Bonarian Vervain. (*Spear-shaped amplexicaul leaves, and clustered spikes of flowers, with four stamina.*)

It

It flowers in autumn, and sometimes ripens seeds, by which it may be raised in the spring, in pots plunged in a hot-bed; also by dividing the roots, and cuttings of the young stalks.

VITEX (*Agnus-Castus*.) CHASTE TREE. (*Didymia angiospermia*.)

A genus of shrub kinds, furnishing two tender exotics from the Indies, rising with woody branchy stems six or eight feet high, adorned with trifoliate and quinquefoliate leaves, and small tubulous ringent flowers, disposed in forked and clustered panicles at the axillas and ends of the branches: having monophyllous, cylindric, quinque-dentate cups, a tubulous-cylindric, bilabiate corolla with two trifid lips, two long and two short stamina; a roundish germen, single style, and globular quadrilocular berry, with oval seeds.

The species are,

1. VITEX *trifoliata*. Trifoliate Indian Chaste Tree. (*Leaves composed mostly of three, and sometimes of five oval entire lobes; and dichotomous panicles of white flowers.*)

2. VITEX *Negundo* (*Negundo*.) Chinese Chaste Tree. (*Leaves composed of five and of three lanceolate, serrated folioles; and clustered panicles of blue flowers.*)

Variety.

Sinuated-pinnatifid-leaved.

They effect a distinguishable variety in concert, flower in summer, but not succeeded by ripe seeds in England: they are propagated by cuttings and layers in the spring in pots, which, if plunged in a hot-bed, or covered close with a hand-glass, will promote their rooting in a short time.

W.

WACHENDORFIA (*Wachendorfia*.) (*Triandria monogynia*.)

A genus consisting of two African herbaceous flowery perennials, with thick tuberous, fibrated red roots, sending up spear shaped, channelled, plaited leaves, from half a foot, to two feet long, by two or three inches broad, and amidst them the flowerstalk three or four feet

feet high in the first sort; the other about a foot, producing hexapetalous, triandrious flowers, terminating the top in a thyse and panicles; having spathaceous bivalve cups, a corolla of six oblong petals, three standing erect, and three spreading; three spreading stamina, a roundish triangular germen, declining style, succeeded by an oval triangular trilocular capsule, with three seeds.

The species are,

1. *WACHENDORFIA thyrsiflora*. Thyse-flowering Wachendorfia. (*Large long quinquenervous leaves, tall single flowerstalks, and yellow flowers, growing in a thyse*)

2. *WACHENDORFIA paniculata*. Paniculated Wachendorfia. (*Shorter trinervous leaves, a divided flowerstalk, and purple flowers, produced in panicles.*)

Plant the roots in pots of sandy loamy earth, in September, October, or in the spring; they will shoot up flowerstalks annually in spring and summer, producing flowers ornamentally in July and August; and are propagated by off set root suckers, taken off in September, or early in March before they begin to shoot.

X.

XERANTHEMUM. ETERNAL FLOWER. (*Syngenesia polygamia superflua*)

It furnishes for the green-house some undershrubby and shrubby trailing and upright exotics from Africa, of three or four feet growth; closely garnished with small hoary and silvery leaves, and large compound radiated silvery and yellow flowers at the sides and ends of the branches, consisting of many dry rigid florets collected into one general imbricated scaly cup, comprising funnel-shaped, hermaphrodite florets in the disk, and tubular ones in the ray, or radius; with five short filaments in the hermaphrodites, and in the females a filiforme style, succeeded each by an oblong coronated seed.

The flowers being of an extreme dry, chaffy, rigid nature, retain their beauty many months after being gathered.—Hence the name *Eternal*, or *Everlasting Flower*. See the *Hardy Herbaceous Plants*.

The

The species of most note are,

1. *XERANTHEMUM retortum*. Reflexed-leaved Trailing Eternal Flower. (*Undershrubby trailing stalks, small reflexed, hoary silvery leaves, and white flowers.*)

2. *XERANTHEMUM sesamoides*. Sesamoides-like, Silvery Eternal Flower. (*Uprightish stalks, small, linear, adpressed leaves, laid close to the branches like scales, and the branches terminated by one large silvery flower.*)

3. *XERANTHEMUM speciosissimum*. Most-specious Golden Eternal Flower. (*Erect shrubby stem, large spear-shaped trinervous leaves; and the branches terminated by a large bright yellow flower.*)

4. *XERANTHEMUM proliferum*. Proliferous-stalked Eternal Flower. (*Shrubby proliferous stalks, granular-roundish, lightly imbricated leaves, and close-fitting flowers.*)

5. *XERANTHEMUM imbricatum*. Imbricated Eternal Flower. (*Shrubby stalk, and oval-awl-shaped, smooth, imbricated leaves.*)

These plants are retained in collections for variety; they exhibit an agreeable diversity, and a pleasing singularity in their flowers, which appear conspicuously about July and August, but rarely furnish good seeds in England. they are easily propagated by slips and cuttings of the shoots in spring and summer.

Y.

YUCCA. ADAM'S NEEDLE. (*Hexandria monogynia.*)

A genus of succulent, shrub-like, aloëaceous, ever-green perennials, that require the protection of a green-house in severe winters, rising with upright succulent stems, from two or three, to four, six, or eight feet high, or more, according to the different species, decorated at top with a cluster of very long, stiff, succulent aloëaceous leaves, terminating in a long sharp spine, and from the center of the head of leaves issue the flowerstalk, from two or three feet, to five or six in length, branching out into many bell-shaped, hexapetalous, white, purple, and reddish

dish flowers, in erect spikes and pyramidally; having no cups, a large corolla divided into six oval segments, with six filaments, an oval three-cornered germen, crowned by a three-furrowed stigma, and succeeded by an oblong trigonous, trifid, trilocular capsule, having a double series of seeds.

The species are,

1. *Yucca gloriosa*. Gloriosa Canada Yucca, or Common Adam's Needle. (*Long broad entire leaves, and white and purple flowers*.)

2. *Yucca filamentosa*. Thready-leaved Virginia Yucca. (*Long broad serrated leaves, emitting many long threads from their margins; and white and purple-striped flowers.*)

3. *Yucca aloifolia*. Aloe-leaved Jamaica Adam's Needle. (*Long, narrow, straight, stiff, slightly-crenated leaves, and purple and white flowers.*)

4. *Yucca draconis*. Dragon-Tree-leaved American Yucca. (*Long, narrow, crenated leaves, nodding downward; and flesh coloured flowers.*)

These plants assuming a curious singularity in their mode of growth, and order of flowering, affording a conspicuous and entertaining variety, demand observation in every eminent collection; though the two first sorts being natives of North-America, are tolerably hardy, and succeed in the open ground, unhurt by moderate frosts; but it is also proper to retain some of each in pots, in assemblage with the third and fourth species, which are of a more tender nature, always requiring shelter in winter.

They flower very ornamentally in August and September, but do not always ripen seed in England.

They are propagated by off-set suckers from the root, stem, and head, in spring and summer, planted in pots of light sandy compost, placed in the shade, or forwarded in a hot-bed, or under hand-glasses, &c.

Likewise by seed sowed in pots, and plunged in a hot-bed.

Z.

ZANTHOXYLUM. TOOTH-ACH TREE. (*Dioecia pentandria.*)

For the green-house is one shrub exotic from China, armed with recurved spines, and decorated with trifoliate leaves, and dioecious male and female apetalous flowers in umbels, having five-lobed coloured cups, no petals, five stamina, three or five styles, and the like number of unilocular, one-seeded capsules.

The species is,

ZANTHOXYLUM trifoliata. Trifoliate Chinese Tooth-ach Tree. (*Trifoliate leaves, with egg-oval folioles*.)

It is propagated by cuttings and seeds, assisted by a moderate hot-bed, or by layers.

ZYGOPHYLLUM. BEAN-CAPER. (*Decandria monogynia.*)

Consists of two or three shrubby exotics from Africa, rising with upright, woody, shrubby, stems, branching irregularly into many branches, garnished with succulent leaves, composed of spear-shaped, and oval thick succulent folioles, generally by fours round the stalks, and pentapetalous yellow and sulphur-coloured flowers on long footstalks at the sides of the branches, having five-leaved cups, five obtuse petals, a ten leaved nectarium, ten subulate stamina, oblong germen, and single style, succeeded by an oval, pentagonous, quinquelocular capsule with many roundish seeds.

The species are,

1. **ZYGOPHYLLUM sessilifolium.** Sessile-leaved BEAN-CAPER. (*Shrubby stalks, close-fitting leaves, with thick lanceolate oval folioles, having rough borders; and yellow flowers.*.)

2. **ZYGOPHYLLUM Morgsana** (*Morgsana.*) Purslane-leaved Bean-Caper. (*Shrubby stalk, somewhat-footstalked leaves, with ob-ovate folioles; and sulphur-coloured flowers.*.)

3. (*Fulvum.*) Flame yellow-coloured, with oval-acute capsules.

4. **ZYGOPHYLLUM spinosum.** Thorny Bean-Caper. (*Undershrubby stalks, close-fitting leaves, with linear acute folioles*.)

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5. *ZYGOPHYLLUM album*. White Egyptian Bean-Caper. (*Footstalked leaves, with clubbed fleshy lobes.*)

These plants improve the green-house variety, effect a distinguishing diversity all the year, and flower ornamentally all summer, autumn, and great part of the winter; sometimes succeeded by ripe seed, by which they may be propagated; also by cuttings by the assistance of a moderate hot-bed, or the cuttings planted in natural earth, and covered close down with a hand-glass.

A P P E N D I X.

UNDER the foregoing Division of *Green-house Plants* are inserted several species belonging to different genera, which are also employed as shrubby plants in the full ground, and are arranged under the head *Hardy Trees* and *Herbaceous Plants*; and which, as they will succeed in the full air, in moderate winters, but liable to be destroyed by rigorous frosts, it was proper to insert them also among the green-house exotics, distinguished generally by mentioning them.

Likewise some of the hardier Stove Plants are exhibited in the green-house collection, because, that in default of a stove, they may still be preserved in tolerable perfection in a good green-house; and some particular green-house plants are arranged among the stove exotics, that although they succeed well by the common culture of green-house plants, yet may probably be brought to greater perfection in respect to flowering, particularly in a hot-house; all of which is noticed in their proper places.

Green-house plants being tender exotics, natives originally of warm climates, requiring protection in this country in winter, from October till May or June, but no artificial heat, and to be removed to the open air in summer, they must consequently be planted in pots, and always retained therein for the convenience of moving them in and out of the green-house, &c. at the proper season; allotting them pots of larger or smaller dimensions, according to the size and nature of the growth of the respective sorts: generally when the plants are young, or of diminutive growth, plant them first in the smaller sized pots, and in

a year

a year or two after, according as they encrease in size, they must have larger pots in proportion; and which will require to be repeated occasionally; some sorts once a year, for a certain time, especially the large free-shooting kinds, others not so often, and some small slow-growing plants will probably not require shifting but once in two or three years, or more; and thus, according to the nature of growth, and progress they make therein, the plants are to be gradually shifted from time to time, as they require, into larger pots, till they are by degrees removed finally into the largest sized pots, in proportion to their growth, in which they are to remain; and some large sorts, when considerably advanced in growth, will require to have their final removal or transplanting into large tubs or boxes, such as oranges, lemons, large American aloes, and such like large-growing exotics: other sorts again, remaining always of an humble or diminutive size, never need large pots, such as several sorts of the African Aloes, some sorts of Sedums, and some others of the succulent tribe, &c. However, the green-house plants in general, in their advanced state, after being removed into their full-sized pots and tubs, &c. will require shifting into fresh earth once in two or three years, according as they shall seem to require it, to promote a healthful and free growth.

As to the proper soil in which to pot green-house plants, that for the general woody and herbaceous kinds, it may be of the quality of any good, rich, light kitchen-garden earth, or a prepared compost of good, light, surface loamy soil from a pasture, or any field, common, or garden, &c. with an equal portion of good kitchen-garden earth and rotten dung, all well blended together in an heap, in the full sun and air, remaining for several months, and turned over twice or three times, but in default of such compost, use any rich light kitchen-garden mold, and in which most of the tree, shrub, and herbaceous plants of this collection, will prosper exceedingly well. But for the succulent plants, generally have a light sandy soil, or, for some of these sorts that are of a very succulent or humid nature, prepare a dry rubbishy compost, of any light sandy materials, sifted lime rubbish, road stuff, and a small portion of light dry garden earth, all

well

well mixed together; for succulent plants being of a fleshy nature, both in stalk and leaf, are so very replete with moisture, that if planted in a rich moist soil, they are liable to rot, and go off in winter.

The season for planting green-house plants may be principally any time in the spring, March, April, or May; and in August and September.

In performing the work of planting the different sorts of green-house plants in their respective pots, &c. and occasionally shifting them into such, observe previously, having the pots and earth ready for the reception of the plants, that as the pots, &c. have one or more holes at bottom, for the discharge of the redundant moisture, after occasionally waterings, be careful, before you put in any earth, to place a piece of tile or oyster-shell over each hole, both to prevent their being clogged up with the earth, and the earth from being washed out in watering, as also to prevent the roots of the plants from running out at these apertures; then put some earth in the bottom of the pots, two, three, or several inches deep, according to the size of the pots and plants; or, if for quite small plants, fill them near the top; then proceeding to put in the plants, observe in removing them, to preserve the ball, if any, or as much earth about their roots as possible, where practicable; place one in the middle of each pot, and add more earth; or if quite small plants, as above hinted, and that the pot was previously almost filled with mold, first, before inserting the plant, make a small aperture in the middle of the earth, for the reception of the roots, which place therein, and then, in either method, fill up with more fresh mold, gently shaking the pot, to make the earth settle close about all the roots and fibres, raising the earth within half an inch of the brim of the pot: and as soon as planted, give a moderate watering; then place the pots in a somewhat shady situation till they take root, either in the green-house, or if in summer, in a convenient place in the open ground, repeating the watering twice a week, or oftener, in summer.

Sometimes in planting any particular curious or more tender kinds, or any that are just obtained from abroad, as oranges, lemons, tender sorts of jasmines, &c. the pots

or tubs, &c. might be plunged in a bark bed, in a glass-case, &c. a month or two; it will promote their rooting more expeditious and abundant, and set them off in a free growth at first; then removed to the green-house, afterwards to the open air, in summer.—See the culture of oranges, &c. obtained from abroad, under the article *Citrus*.

Thus having explained the methods of first planting, it must be observed, that as the plants increase in growth, they will require transplanting into larger pots, which is called shifting; and in performing which, or removing them occasionally out of the same pot, just to have an augmentation of fresh earth; generally remove them with the whole ball of earth about their roots entire, trim off the outside matted roots, and a small portion of the outer earth of the ball, then having put in fresh earth in the bottom of the pot, set in the plant, fill up around and at top with more fresh mold; and finish with a proper watering.—See the work of shifting, as hereafter explained.

As to general culture, &c. all the green-house plants being exotics, obtained originally from warm climates, as before suggested, and consequently are not able to endure the open air in this country in winter, they must have the protection of a green-house, &c. in that season, but do not require any assistance of artificial heat, like hot-house plants; or in default of a green-house, or for want of proper room in that department, some of the more hardy sorts, such as Myrtles, Geraniums, &c. will succeed in garden-frames, defended with glasses, &c. Some sorts, such as the Broad leaved Myrtle, Tea Tree, &c. will succeed, if planted against a warm south wall, training the branches thereto, and defended occasionally with a glass-case, or good mats in winter, in frosty weather and cold nights: but observe that all sorts of green-house plants must be exposed to the full air all summer, from the beginning, middle, or end of May, according to the temperature of the weather, in regard to its being more or less warm and settled; but some of the more tender sorts, especially succulents, and some others of the more delicate kinds, the beginning or middle of June is in some unfavourable seasons soon enough to bring them out into the full air; permitting all the sorts to remain fully

fully exposed till the middle of October, then begin to remove them into the green-house, &c. for the winter, as aforesaid.

Generally begin moving the tender kinds into the green-house towards the end of September, or beginning or middle of October, according as the season proves less or more favourable; and towards the middle take in most of the sorts, and by the latter end of that month the whole should be in their winter quarters, the general part placed in the green-house; or some of the more hardy kinds, as Myrtles, &c. may, for want of room, or in default of a green-house, be placed in garden frames, as before hinted.

Observing generally in removing the plants into the green-house, previously pick off all decayed leaves, cut out casual dead shoots, &c. stir the surface of the earth in the pots, and taking a little out, add an equal portion of fresh mold, then clean and water the head all over; also give a moderate watering to the earth in the pots and tubs, &c.

Then place them in regular order in the green-house, &c. the tallest plants behind, diminishing gradually down to the lowest in the front row, both that they may all equally enjoy the benefit of the sun, light, and free air, and appear equally conspicuous to view. Observing, if the plants in the back rows, or in any part of the house are not sufficiently tall, so as to elevate their heads properly in the above order, they should be placed upon stands, or some placed upon any spare garden-pots turned bottom upward; also pay attention in placing the plants, to diversify them as well as they will admit, by having the broad leaved, narrow and small-leaved, simple and compound-leaved, light-green, dark-green, and hoary-leaved kinds, and other different shapes, sizes, tints, and colours of the foliage, &c. so intermixed, as to exhibit a striking contrast and variety.

And when they are all thus placed, let the green-house be clean swept, and cleared from any fallen leaves and all other rubbish, that the whole may appear neat and decent.

Next observe, that, during the continuance of the plants in the green-house, they must have the benefit of the free

air

air admitted at all favourable opportunities in mild weather; and also proper supplies of water, as often as they shall seem to require that assistance; though this must always be applied with precaution and due moderation in winter.

Fresh air must be admitted every mild calm day, by opening some of the windows, either by shoving up the bottom, or drawing down the top sashes more or less, according to the temperature of the outward air, or warmth of the sun; but less in proportion when no sun, or when the air is rather sharpish and cloudy; being careful neither to keep them too close confined from the admission of free air at all favourable opportunities of mild days, otherwise they will draw up weak and tender; nor be exposed thereto in cold cutting weather; and never at all when sharp or severe frosts prevail; generally, therefore, in mild days, when no sharp winds blow towards the front, begin opening the glasses in that part, about nine, ten, or eleven o'clock, in the dead of winter, being guided in the time of opening, according as the air is more or less mild, increasing the portion of air by opening the glasses wider, as the middle of the day approaches; afterwards, about two or three o'clock, begin to shut them closer by degrees, and then draw them quite close by four in the afternoon; or, if the weather suddenly change very cold, shut the windows directly, at whatever time of the day it happens. Nor is it proper to give air in raw foggy weather, nor when very damp and rainy, nor when it snows; and generally keep all close in frosty weather, night and day; unless the frost is moderate, and sunny calm days, when air may be admitted moderately for two or three hours in the middle of the day, while the sun has power, then shut close.

But, if very sharp frost, keep all the glasses close shut night and day, as aforesaid; and if the frost proves very rigorous, secure the windows with shutters or thick garden mats, or both, every night, and also the greater part of them defended thus a-days occasionally, when the frost is exceedingly severe, and no sun; likewise, in green-houses, furnished with a furnace and flues for fire heat, it is eligible to make moderate fires every night

and morning, just sufficient to repel the frost: or, in want of flues, burn a fire (not charcoal) in a Buzaglo stove, or other utensil, or light up several large candles, &c. observing also, to take good care of such green-house plants as are wintered in frames, to cover the glasser every cold night with mats; and in severe frosts lay a good thickness of dry litter over all, and round the sides of the frames; and also well protect any planted in warm borders against walls.

But observing in general, that when the spring advances, the days longer, more sun, and the weather warmer, to give a larger share of air in proportion, opening earlier in the day, and continued longer in the evening, sometimes from seven after sun-rising to its setting, in mild fine weather; and, according as the warm weather approaches in April and May, admit still a larger portion of air, by opening all or most of the windows to a wider extent, or sometimes as much as they will admit; and, for the last week of their remaining in the house, leave them open day and night; and thus hardening the plants by degrees, they will bear the open air freely, without shrinking, when removed into it fully for the summer season.

Waterings must also be occasionally applied to most of the plants once a week or fortnight, especially to all the woody plants; more moderately to the herbaceous kinds, and the succulents will require very little at this season, some hardly any at all, especially the very fleshy humid sorts; therefore, carefully look over the pots and tubs, in general, of the woody and herbaceous plants, once a week. See when water appears necessary; and in mild days, if sunny, the better, give them moderate supplies, never too much at a time, only just to preserve a very moderate moistness in the earth; for if once rendered too wet at this season, it would remain so a long time, chill the roots, and make the plants cast their leaves, as well as prove the destruction of some of the more delicate sorts; and seldom give water in frosty weather, unless any plants are in great want thereof: and as to the succulent plants, give water only when the earth in the pots appears very dry, just giving a little to moisten the earth in a very moderate degree, for much moisture would rot

these sorts at this season of the year. Observing occasionally, in watering the woody plants, and most of the herbaceous kinds, that in mild sunny weather, towards the spring, especially, it is advisable sometimes to water them moderately all over their leaves and branches, &c. in the forenoon of a warm day, which will both clean and refresh the heads of them, and make them assume a more lively and healthful appearance; and as the spring and warm season advances give the necessary waterings to the pots, &c. more frequent and less sparing than in the winter time; though always with some moderation while the plants remain in the green-house.

All winter keep the plants clear of decayed leaves, by picking such off as soon as they appear; or when any dead branches or shoots occur, cut them away; also, if any of the leaves of the Aloes, &c. decay, cut them off with a knife, down either to the live part, or to the bottom, as you shall see proper.

And if any of the plants have contracted much dust, or any sort of foulness on their leaves, or attacked with small vermin, while in the green-house, let them be cleansed with water; the large-leaved kinds, such as the Oranges, Lemons, &c. should have the leaves washed one and one, with a sponge and water; and the small-leaved sorts should be watered all over their branches and leaves, out of a watering-pot, with the rose of the spout on.

Observing in general, when the spring, &c. approaches, to give frequent refreshments of moderate waterings, both to the earth in the pots, and sometimes all over the heads of the plants.

In May, about the beginning or middle of the month, begin to remove the hardier kinds of plants out of the green-house into the open air, in a conspicuous situation for the summer, such as Myrtles, Geraniums, Oleanders, Olives, Magnolias, Cereuses, Amomum Plinii, Tree Wormwood, &c. and in the latter end of that Month, or beginning of June, bring forth all the rest; though, as sometimes cold nights and unsettled weather still prevail at this time, it is advisable in that case to permit the Oranges, Lemons, Citrons, and such other of the more valuable and tender kinds to remain in the green-house.

house till the beginning of June, granting them, however, a large share of free air, by opening all the windows every day, &c.

When the plants are all brought out of the green-house, let them be cleared from decayed leaves, and prune away damaged branches and dead wood; as also to reform with your knife any casual irregularity, straggling, and very superabundant or crowding growths, by pruning them as it shall seem necessary, to preserve a somewhat regular shape in the general branches, &c. of the head.

Then, if any want shifting into larger pots or fresh earth, it may now be done, if omitted in March or April.—See the Method of shifting explained hereafter.

But, in the general, plants that do not require shifting, it would prove very beneficial to stir or loosen the earth a little depth in the surface of the pots, nearly as low as the upper roots, and add some fresh mould thereto, blending it with the loosened old earth; or sometimes, previously take out an inch or two in depth of the loosened old top earth, and a little way down round the sides, where it will admit, then fill up with new earth; and, in either method, give directly a moderate watering, to settle the earth regularly towards the roots, that they may receive all possible benefit from this dressing, which will assist greatly in promoting a healthful free growth during the summer.

Likewise, as soon as they have had this little dressing, let each plant be watered all over the branches and leaves, &c. which will both wash off all dust and filth contracted in the green-house, much refresh the plants, and make them assume a lively healthful appearance.

Then let the whole be placed where they are to remain for the summer, either in the pleasure-ground, placed all together in one grand collection, or disposed in smaller groups in different parts of the garden, or some in fore-courts, &c. to ornament the respective premises.

The plants being now placed in their proper stations in the full air, the principal culture is to afford them due supplies of water, which will be necessary two or three times a week, or oftener, in a very dry season; let them therefore

therefore be duly attended with this article; they will require water every other day, or sometimes every day, in very dry scorching weather; particularly the plants contained in small pots, and more especially if they are exposed to the full sun.

Generally perform the waterings either in a morning, before eight or nine o'clock, or towards the evening, when the sun has less power to exhale the moisture.

It is of advantage at this time to lay some mowings of short grass or moss, &c. on the surface of the earth of the pots and tubs containing the plants, which will preserve the moisture longer, and defend the roots from the effects of the scorching sun, &c.

Observe, if during the time the plants are abroad in the full air in summer, the earth in the pots bind, forming a hard surface, loosen it a moderate depth with the point of a garden trowel, or old knife, &c. spread a little fresh mold at top, and give a light watering.

Shifting green-house plants into larger pots, or some large kinds into tubs or boxes, &c. will be necessary occasionally, according as they increase in growth; some once in a year or two, others once in two, three, or several years, till they are by degrees shifted as they require, finally into their full-sized pots or tubs, where they are for good to remain; the smaller and moderate growing plants will succeed always in pots, of a larger or smaller dimension, as required, proportionable to the nature of growth of the different sorts; but those of a large free growth, such as Oranges, Lemons, American Aloes, &c. as before suggested, that when arrived to a considerable size, they will require shifting into large tubs or boxes, hooped with iron, and, with two iron handles at top, for the better convenience of moving them in and out of the green-house, as they will then be very weighty.

This work of shifting may be performed both in the spring, about March and April, and in the early part of summer, May, and beginning of June, when the plants are first brought forth into the open air for the summer season; also occasionally in autumn, about August and September, before they are removed into the green-house for the winter; though for the general practice, the spring, &c. March, April, and May, is the most eligible

ble season, so as the plants may have the whole summer to improve from the benefit of shifting.

In performing the shifting, let the plants be removed out of their present pots, with the whole ball of earth about their roots entire; and with a sharp knife pare off the outside matted roots around the sides and bottom of the ball, with a small part of the loose old earth thereof; then having the new pots, &c. and earth ready, placing a piece of tile, or oyster-shell over the holes at bottom of the pots; put in some fresh earth two, three, or several inches depth, according as the size of the pots admit; and then place the plant therein, with its ball of earth still entire, filling up round the sides, and an inch or two, or more, as required, with fresh earth; and finish with a good watering, to settle the earth close about the ball and extreme roots.

Observing, that if the old earth of the pots appears much exhausted or worn out; or if any plants are in a weakly or unhealthful state, it is adviseable in shifting them to shake the old earth entirely away from about the roots, which then examine, and prune off any decayed or mouldy parts thereof; then wash them in water, and plant them entirely in fresh earth; give a proper watering, and place them in the shade; or, if there is the convenience of a bark-bed in a glass case, in which to plunge the pots a month or two, it would greatly forward their taking fresh root, and shooting at top.

But when shifting in either of the above cases is not required, it would prove of much advantage, if once every year or two in the spring, in March, April, or May, some fresh earth is added to the top of the pots and tubs; first loosening the old earth down to the surface of the upper roots, and a little way down round the sides, and removing the loosened old mould, fill up the pot or tub with fresh earth, and give a moderate watering.

This will prove a very beneficial culture to the Oranges, Lemons, Myrtles, Geraniums, and to the plants in general, as will soon be evident in their general growth and healthful appearance.

When any of the branchy-headed plants assume an irregular, or straggling, or unsightly, shabby growth, they may be pruned in spring, more or less; either by heading

heading down the branches to a few inches, if of a thin, straggling growth, or pruned to some regular order, they will soon push forth many new shoots, and form full heads by the end of summer; or, if in performing this operation, some of the more curious or valuable kinds, such as Orange, Lemons, &c. were as soon as cut down, as above, to be plunged in a bark-bed for a month or two, it would assist them exceedingly.

Sometimes the Myrtles and other plants, by some mismanagement in winter, in giving too much or too little water, drop all their leaves; in which case, it is eligible to prune them down more or less in the spring, and either shift them with the ball entire, into larger pots, with some fresh earth, as directed under that article; or without shifting, apply new earth as they remain in their present pots, also as directed under that head, and they will push forth numerous new shoots, and recover their leaves and verdure; or, if in May, such of the hardier kinds of plants of the above description, that are in a weakly state, are cut down, as before directed, then taken out of the pots, with the ball of the earth entire, prune off the outside matted roots, and then plunge them over the top of the ball of earth, in some bed or border of rich earth, give water, and repeat it frequently in dry weather; they will recover, shoot forth with vigour, and form handsome heads, adorned with full foliage by next autumn in September, then taken up with balls, re-potted, and placed among the other green-house plants.

Or, if in the above case, of plants casting their leaves, that after cutting them down, they are plunged into a bark-bed, it would much sooner recover them, as well as sometimes more effectually, than by any other method.

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Gardener's Pocket Dictionary.

FOURTH DIVISION.

COMPREHENDING

HOT-HOUSE, or STOVE EXOTICS.

CONSISTING

Of the tenderest Trees, Shrubs, and Herbaceous Plants, that require the Aid of artificial Heat.

UNDER this head is comprised rare trees, shrubs, and herbaceous perennials from various hot parts of the world, cultivated in this country under the protection of a hot-house the year round, assisted by actual fire in winter, and by a bark hot-bed all the year, in which, both to plunge the pots of some particular plants, and to afford a continual regular warmth, so as to render the air within the stove always of nearly equal temperature to that of the hot countries, of which the various plants are natives.

In this conservatory of artificial heat, all the plants must be retained in pots, and placed, some in the bark-bed, such as many of the tender kinds from the hottest regions, others upon the shelves, tops of the flues, &c. as their nature shall require, which is generally hinted under their respective heads.

Though there are some stoves worked entirely by heat, called dry stoves, intended principally for the several kinds of the tenderest succulent exotics, which, being

natives of dry situations, are generally considered to be more prosperous in a dry than moist heat, such as in stoves furnished with bark-beds.

However, almost all sorts of tender exotics, both trees, shrubs, herbaceous plants and succulents, may be cultivated with tolerable success in a common hot-house or pine-stove, furnished with an internal pit for a bark-bed, and flues for fire heat.—See the *Appendix* for the general management of stove plants.

A.

ACHRAS. SAPOTA TREE, or MAMMEE SAPOTA.
(*Hexandria monogynia.*)

A genus consisting of three South-American trees, growing to the height of thirty feet in their native soil, but assume a shrub-like growth in our stove collections; adorned with large ovate-oblong, lanceolate-wedge-shaped, and spear-shaped-ovate leaves, and pentapetalous, hexandrious, whitish and purple flowers, singly and in clusters; having permanent cups of five oval leaves, five heart-shaped petals, six short stamina, oval germen, and short style, succeeded by a large oval, pulpy, luscious fruit, including one or two nuts.

The species are,

1. *ACHRAS Sapota* (*Sapota.*) Common Sapota Tree. (*Ovate-oblong leaves, and flowers growing singly, and smaller fruit.*)
2. *ACHRAS mammosa.* Mammee Sapota, or American Marmalade Tree. (*Very large, long, lanceolate-wedge-shaped leaves, flowers placed singly, and large, oval, luscious fruit, called Natural Marmalade.*)
3. *ACHRAS salicifolia.* Willow-leaved Sapota Tree. (*Spear-shaped-ovate leaves, and purple flowers growing in clusters.*)

They are propagated by the stones or nuts of the fruit, obtained from abroad, planted in pots, plunged in a hot-bed, or the bark-bed in the stove; and may be tried also by layers and cuttings, by the like assistance.

ACHYRANTHES (*Achyranthes.*) (*Pentandria monogynia.*)

Consists

Consists of herbaceous-ligneous perennials, natives of India, &c. of upright and spreading growth, three feet high or more; garnished with oblong and ovalish leaves, and apetalous flowers in spikes, having three and five-leaved, stiff, permanent cups, no petals, five filaments, and single style, succeeded by single oblong-roundish seeds, ripening in the calix.

The species are,

1. *ACHYRANTHES aspera*.. Rough, upright American Achyranthes. (*Erect stalk, oblong obtuse leaves, and depressed spikes of flowers, with reflexed cups.*)

Varieties.

(*Sicula*.) Sicilian spiked-flowered rough Achyranthes.

(*Indica*.) Indian spike-flowered rough Achyranthes, with thick obtuse leaves.

2. *ACHYRANTHES lappacea*. Lappaceous, or burry-fruited, spreading Achyranthes. (*Spreading stalks, interrupted spikes of flowers, and bur-like fruit.*)

3. *ACHYRANTHES muricata*. Murexed-cupped spreading Indian Achyranthes. (*Shrubby spreading stalks, ovate, alternate leaves, and oval spikes, with remote flowers, having rough spreading cups.*)

4. *ACHYRANTHES sanguinolenta*. Bloody-leaved Indian Achyranthes. (*Herbaceous, erect, simple stalk, the height of a man, ovate opposite leaves, red underneath, and cross-branching smooth spikes of flowers.*)

5. *ACHYRANTHES prostrata*. Prostrate-stalked Indian Achyranthes. (*Prostrate creeping stalks, ob-ovate, opposite leaves, and oblong spikes.*)

They are retained in curious collections to increase the variety; and are propagated by seeds and cuttings, assisted by a hot-bed.

ADANSONIA. ÆTHIOPIAN SOURGOURD TREE. (*Monadelphica polyandria*.)

A deciduous Æthiopian tree, of a stupendous growth, and singular magnitude in its native soil, retained in our stove collections for variety and curiosity; assuming however, only a large shrub-like growth in this country; adorned with elegant single, and digitate leaves of three or five spear-shaped spreading lobes, and flowers having five-parted cups, five roundish petals, numerous monadelphous stamina, an oval germen, with a many-branched

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style, succeeded by a large oval multilocular capsule, filled with a fungous sour pulp, and many seeds.

The species is,

ADANSONIA *Babobab* (*Babobab*.) or Æthiopian Sour Gourd.

This tree in Senegal, its native country, is remarkable for the vast magnitude of its trunk, which frequently exceeds twenty-five feet diameter, with branches equal to a monstrous tree in Europe.

It is propagated here by seed procured from Africa, and by cuttings, &c. assisted by a hot-bed, or the bark-bed in the stove.

ADENANTHERA. BASTARD FLOWER-FENCE. (*Decandria monogynia*.)

A genus consisting of two evergreen tree kinds of India, admired for the beauty and singularity of their large decompound branched leaves, remaining the year round, and small bell-shaped flowers, with five reflexed petals, ten stamina, oblong germen, with a single style; succeeded by a long compressed pod, having many seeds.

The species are,

1. ADENANTHERA *pavonina*. Peacock, Shining-leaved Bastard Flower-Fence. (*Large decompound leaves, smooth and shining on both sides.*)

2. ADENANTHERA *Falcataria* (*Falcataria*.) Hoary Bastard Flower-Fence. (*Decomound leaves, hoary underneath.*)

These plants deserve notice in all curious collections, for the beauty of their fine doubly pinnated leaves; they are raised from seed obtained from abroad, and by layers and cuttings; all of which assisted by heat.

ÆSCHYNOMENE. BASTARD SENSITIVE PLANT. (*Diadelphia decandria*.)

It furnishes for the stove two tree-like Indian shrubs of the pinnated-leaved and papilionaceous flowered tribes, being garnished with pinnated leaves, of many pair of folioles or pinnæ, and papilionaceous, or butterfly-shaped, yellow flowers, issuing from the axillas along the branches, two or three together, on long peduncles; having cups cut into two bifid and trifid lobes, a corolla consisting of a large heart-shaped standard, two oval wings, and lunated keel; ten diadelphious stamina, oblong germen, arched style, and a long, jointed pod, with one seed in each articulation.

The

The most popular species are,

1. *ÆSCHYNOMENE grandiflora*. Large flowered Indian *Æschynomene*. (Tree-like stalk, large flowers, and fili-form seed pods.)

2. *ÆSCHYNOMENE arborescens*. Tree-like Indian *Æschynomene*. (Tree-like smooth stalk, nearly heart-shaped jointed smooth pods.)

They flower in summer, and ripen seeds in autumn; by which the plants may be raised in pots, plunged in a hot-bed in the spring.

AGAVE. GREAT AMERICAN ALOE. (*Hexandria monogynia*.)

For the stove it furnishes two large succulent perennials, rising with a considerable cluster of large, thick, spear-shaped, taper succulent leaves, from half a yard, to two or three feet long, or more, ending in a sharp point, those in the centre closely enfolding one another; inclosing the bud of the flower-stem, which, when the leaves expand, issues forth in an upright direction, from ten to twenty feet high, branching pyramidally, adorned with numerous funnel-shaped flowers, with six stamina, an oblong germen under the corolla, supporting one style, succeeded by an oblong triangular, trilocular capsule, filled with compressed seeds.

The species are,

1. *AGAVE fatida*. Stinking American Aloe. (Long, narrow, stiff, entire leaves.)

(*Tuberosa*.) Tuberos - rooted stinking American Aloe.

(*Rigida*.) Stiff linear-leaved stinking American Aloe.

2. *AGAVE vivipara*. Viviparous, or childing American Aloe. (Indented reflexed leaves, the stamina equal with the corolla; and young plants succeeding the flowers.)

(*Karatto*.) American Karatto. (Erect, dark-green, slightly serrated leaves, with brown edges.)

These species and varieties, like the green-house kinds of the same genus, being of a very slow growth in this country, do not flower till they are many years old, when they expand the centre leaves, the flowerstalk advances, performing its full growth in two or three months, to the height of fifteen or twenty feet in the *Agave fatida*, and the

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the *Agave vivipara*, about ten or twelve; with this singularity, that each flower succeeds to a young plant perfectly formed.

They should be planted in pots of light sandy earth, watered but very moderately in winter, but frequently in summer, and shifted once in a year or two into fresh earth, and larger pots.

Propagate them by suckers from the root; or in default thereof, by cuttings of the leaves, in pots of light earth, plunged in the bark hot-bed; and by the young plants, produced on the flower-stem, or occasionally by cuttings of the root.

ALETTRIS (*Aletris.*) GUINEA ALOE.

A genus of aloecaceous succulent exotics, furnishing for the stove collection a few tender kinds, from Africa and Asia, furnished with aloe-like leaves, rising, some without stalk, with the leaves immediately from the root; and some furnished with a shrub-like stalk, elevating the leaves at top; the leaves mostly narrow, spear shaped, and from half a foot, to eighteen inches long, or more; and from the centre of the leaves arise the flowerstalk, from six or eight inches, to one or two feet high; decorated with liliaceous pure white flowers, having no cups, an oval corolla, six-parted at the brim; six stamina, one style, and a triangular, trilocular capsule, with angular seeds.

The species are,

1. ALETTRIS *capensis*. Cape waved-leaved Aletris. (*Without stalk, spear-shaped, waved leaves, and oval spikes, with nodding flowers.*)

2. ALETTRIS *Hyacinthoides* (*Hyacinthoides.*) Hyacinth-flowered Aletris. (*Without stalk, spear-shaped, fleshy leaves, and flowers disposed in pairs.*)

(*Zeylanica.*) Ceylon Dwarf Aletris. (*Without stalk, short lanceolate plane, erect leaves*)

Variegated leaved.

(*Guineensis*) Knotty-rooted Guinea Aletris. (*Jointed fleshy root, dark-green, waved, and variegated leaves.*)

3. ALETTRIS *fragrans*. Fragrant, tree-like African Aletris. (*Tall upright stalk, elevating a head of spear-shaped, thin base reflexed leaves, and most fragrant flowers.*)

These

These exotics have mostly thick fleshy roots, are always furnished with leaves, and they flower ornamentally in summer and autumn, &c. in the different species; should be kept in pots of light sandy earth, and are propagated by suckers or off-sets from the root; and from the sides of the stem in the *Aletris fragrans*.

ALOE (*Aloe*,) AFRICAN ALOE. (*Hexandria monogynia*.)

Consists of many species of succulent, herbaceous, and shrub-like perennials, which, though hardy enough to succeed in the green-house, are also often retained as stove plants, in which they commonly flower oftener, and in greater perfection; so that where there is the convenience of a hot-house, it is advisable to retain a collection of this genus of *Aloes* also in that department.

For the names, description, and method of propagation of the different species, see the *Green House Plants*.

ALSTROEMERIA (*Alstroemeria*.) (*Hexandria monogynia*.)

A genus of herbaceous, fibrous-rooted, very ornamental flowering perennials from Peru, in South-America, rising with erect, and ascending, and climbing stalks in the different species; garnished with oval and spear-shaped leaves, and hexapetalous white and purple liliaceous flowers, having no cups, a corolla consisting of three outward wedge-shaped, and three interior spear-shaped petals; six stamina, a turbinate, hexangular germen, slender style, crowned with three stigmas, and a roundish six-angled, trilocular capsule, with globular seeds.

The species are,

1. ALSTROEMERIA *pelagias*. Upright spotted Alstroemeria. (*Upright stalks, oval lanceolate leaves, and whitish and purple-spotted flowers.*)
2. ALSTROEMERIA *Ligta* (*Ligta*.) Ascending striped Alstroemeria. (*Rising stalks, spear-shaped leaves, and striped purple flowers.*)
3. ALSTROEMERIA *Salfilla* (*Salfilla*.) Climbing Alstroemeria. (*Volubilate climbing stalk, spear-shaped leaves, and purple flowers.*)

These

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These plants, in default of a stove, will succeed in the green-house, but are generally the most prosperous, and flower more beautifully by hot-house culture, and are propagated by slipping the roots; also by cuttings and seed, assisted by a hot bed.

AMARYLLIS, LILY DAFFODIL. (*Hexandria monogynia.*)

A genus of herbaceous, bulbous-rooted, ornamental, flowering perennials, of the liliaceous tribe, natives of the warm parts of Africa, America, and Asia; having large oblong bulbous roots, sending up mostly long narrow leaves, and erect flowerstalks, from six, eight, or twelve inches, to half a yard, or two or three feet high, surmounted by a spathe or scabbard, containing one, two, or several large beautiful lily-shaped red, crimson, scarlet and white flowers, having oblong spathaceous cups, opening sideways, and protrude the flowers, consisting each of six large oblong petals, six stamina, a round germen and single style, topped by a trigonous stigma, succeeded by an oval trilocular capsule, with round seeds.

The species are,

1. AMARYLLIS *capensis*. Cape Lily. (One flower in each sheath, which stands remote, the corolla equal, and erect stamina and style.)

2. AMARYLLIS *formosissima*. Most beautiful Amaryllis, or Jacobæa Lily. (One large scarlet flower in each sheath, the corolla unequal, having one of the petals erect, two standing horizontally, and three of them, with the stamina and style declinated.)

3. AMARYLLIS *ciliaris*. Ciliated African Scarlet Lily. (Many flowers in each sheath, and leaves, having the edges ciliated or hairy.)

4. AMARYLLIS *zelanica*. Ceylon White Lily. (Taper two-edged stalk, many white flowers in each sheath, striped with purple; an equal bell-shaped corolla, and drooping stamina and style.)

5. AMARYLLIS *longifolia*. Long-leaved African Amaryllis, or Cape-Coast Lily. (A short compressed stalk, the length of the umbel; many flowers in each spathe; equal bell shaped flowers, and declinated genitals.)

6. AMA-

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6. *AMARYLLIS orientalis*. Oriental Red Lily, or Brunswigia. (*Tongue-shaped leaves, many flowers in each sheath, and unequal corolla.*)

7. *AMARYLLIS Belladonna* (*Belladonna*.) Belladonna Lily, with incarnate and white flowers. (*Many pale-red and white flowers in each sheath; an equal, bell-shaped corolla, with the unguis reflexed, and declinated stamina and style.*)

8. *AMARYLLIS reginæ*. Queen Amaryllis, or Belladonna Scarlet Lily, with undulate petals. (*Many scarlet flowers from the sheath, bell-shaped, equal corolla, with undulate petals, and declinated genitals.*)

They have all large bulbous perennial roots, from which the flowerstem rises annually, appearing some in the spring, but chiefly in autumn, and sometimes in winter, and the leaves continue their growth till May or June, then decay, when the roots assume a state of rest, and is the proper time to remove or transplant them where required, or into pots of fresh earth; as also to separate the off-sets for the propagation of the species; or the roots may be retained out of ground till autumn, if occasion requires.

They all produce most elegant flowers of distinguished beauty.

The *Amaryllis Jacobæa*, particularly, have great singularity of form, and lustre of colour; but all the sorts highly deserve culture in the stove, for the ornament of their flowers, though some of the sorts are also retained in the green-house collection, particularly the two sorts of *Belladonna Lilies*; but they generally flower with greater lustre by hot-house culture.

The roots should be planted in large pots of light rich earth, one in each pot, giving but very moderate waterings till they begin to shoot; afterwards let the waterings be frequent, to increase the strength of the flower-stem and magnitude of the flowers; and are propagated by off-set young bulbs from the main roots, separated when the leaves decay, as before suggested.

AMOMUM. GINGER. (*Monandria monogynia.*)

A genus of herbaceous Indian exotics, of the arundinaceous or reedy tribe, famous for their roots, of which is prepared that useful aromatic spice, *Ginger*; they having thick, fleshy, knotty roots, sending up many reed-like stalks annually, two, three, or four feet high, garnished

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garnished with long, narrow, and oblongish, amplexicaul leaves, and distinct, naked flowerstems, rising also from the root, terminated by the flowers in scaly spikes; having scaly tridentate cups, a small, monopetalous, tubular corolla, tripartite above, one stamina, round germen, with a single style, and a trigonous capsule, with several seeds.

The species are,

1. *AMOMUM Zingiber* (*Zingiber*.) Common Ginger. (*Long narrow leaves, naked, or leafless flowerstems, and egg-oval spikes of small blue flowers.*)

2. *AMOMUM Zerumbet* (*Zerumbet*.) Wild, or Bastard Ginger. (*Oblong broader leaves, naked flowerstems, and oblong-obtuse spikes of white flowers.*)

3. *AMOMUM Cardamomum* (*Cardamomum*) or Cardamom. (*Short simple flowerstem, having alternate bracted leaves.*)

4. *AMOMUM Grana-Paradisi* (*Grana-Paradisi*.) Grains of Paradise. (*Short branching flowerstem.*)

These plants are retained here in our stove collections for variety, principally the first two species; and of which the *Zingiber* is cultivated in vast abundance in the West-Indies, &c. for its roots to dry, and prepare for Ginger.

They are all easily propagated by slipping their roots in the spring.

AMYRIS (*Amyris*.) (*Oelandria monogynia*.)

Consists of woody balsamic exotics of South America, adorned with broad oval bijugate, and trifoliolate leaves, and quinquepetalous and tetrapetalous small white flowers in terminal spikes; having eight stamina, one style, and roundish berries.

The chief species are,

1. *AMYRIS balsamifera*. Balsamiferous Tree-like Jamaica Amyris. (*Oval, bijugate, smooth leaves, and loose terminal clusters of flowers.*)

2. *AMYRIS Elemifera* (*Elemifera*.) Shrubby acute-leaved Carolina Amyris. (*Trifoliolate and quinquefoliate acute leaves.*)

They are retained here in eminent stove collections for variety; and are propagated by layers, and by cuttings struck in a hot-bed.

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ANACARDIUM. ACAJOW, or CASHEW NUT: (*De-*
candria monogynia.)

A genus consisting of but one species; an Indian and American tree of the nuciferous tribe, growing twenty feet high, with spreading irregular branches, furnished with large oval leaves, and small pentapetalous white flowers, terminating the branches in umbels; having five-leaved cups, five narrow reflexed petals, ten filaments, roundish germen, and inflexed style, succeeded by a large oval fleshy receptacle, crowned by a kidney-shaped nut, containing an eatable kernel, very palatable when roasted.

The species is,

ANACARDIUM *occidentale*. Occidental or Western American Cashew Nut.

It grows abundantly in the West-Indies, and a few trees are cultivated here, to encrease the variety of our hot-house collections; great quantities of the nuts are annually brought from the American islands, for eating, &c. and by which also the tree is propagated, planted in pots, and plunged in the stove bark-bed.

ANNONA. CUSTARD APPLE. (*Polyandria poly-*
gynia)

A genus of ever green tree and shrub exotics of America and Asia, growing to the height of from ten to twenty or thirty feet, decorated with beautiful large spear-shaped, and oblong and oval simple alternate foliage, and large hexapetalous flowers, singly along the branches; having cups of five heart-shaped leaves, a corolla of six petals, many scarcely visible stamina, roundish germen, many invisible styles, with obtuse stigmas; and the germen succeeding to a large oval unilocular fruit, full of a sweet or sour pulp, and many seeds.

The species are,

1. ANNONA *reticulata*. Netted fruited American Annona, or Custard Apple. (*Spear-shaped leaves, and egg-*
oval fruit, with a nettled rind.)

2. ANNONA *squamosa*. Squamous, or scaly-fruited American Annona. (*Oblong leaves, and obtuse sub-squa-*
mose fruit.)

3. ANNONA

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3. *ANNONA muricata*. Murex'd or Prickly-fruited American Annona. (*Oval-lanceolate, plane smooth shining leaves, and prickly apples*.)

4. *ANNONA palustris*. Marsh Annona, or Water-Apple. (*Oblong-obtuse smooth leaves, and round fruit.*)

5. *ANNONA glabra*. Smooth Custard Carolina Apple. (*Lanceolate egg-oval leaves, and conical smooth fruit.*)

6. *ANNONA asiatica*. Asiatic Custard Apple of Ceylon. (*Spear-shaped, linear, smooth shining leaves.*)

These trees in America, &c. produce large eatable fruit, being of a soft pulpy substance, sometimes of the consistence of a custard; hence the name *Custard Apple*; but they seldom produce fruit here, so are kept in the stove collection for variety; and are propagated by seed obtained from abroad, sowed in pots, and plunged in a bark hot-bed.

ANTHOLYZA (*Antholyza*). **ÆTHIOPIAN CORN-FLAG.** (*Triandria monogynia.*)

Consists of herbaceous, bulbous-rooted, perennial exotics of Africa and Asia, rising with long, narrow, and sword-shaped leaves, and an annual flowerstalk, from one to two feet high, terminated by a spathaceous flower-cup, protruding a cluster of large monopetalous, tubulous, ringent, five or six-parted, irregular flowers, of singular structure and beauty; having three stamina, one style, and trigonous-feed capsule.—See *Antholyza*, in the *Grunthhouse Plants*.

The species are,

1. *ANTHOLYZA ringens*. Ringent Scarlet Antholyza. (*Flowers with divaricated lips, and compressed throat.*)

2. *ANTHOLYZA æthiopica*. Æthiopian Crimson Antholyza. (*Incurved corolla, the lips divided in five parts, with two alternately large, spreading, spear-shaped lobes.*)

2. *ANTHOLYZA Meriana* (*Meriana*). Cape Antholyza. (*Funnel-shaped, nearly equal flowers, and sword-shaped leaves.*)

4. *ANTHOLYZA Cunonia* (*Cunonia*). Persian Antholyza. (*Erect corolla, with the lips five-parted, and the two outward lobes broad and ascending.*)

They are perennial in roots, which are bulbous, sending up leaves and flowerstems annually in spring; flowering very ornamentally in May and June; and are propagated

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pagated by off-sets of the roots when the leaves decay, and by seed.

APOCYNUM. DOG'S-BANE. (*Pentandria digynia.*)

Consists of two ornamental flowering exotics from India; one an upright shrub, the other a volubilate high-climbing perennial, adorned with lanceolate and oval opposite leaves, and bell-shaped flowers in bunches; having monophyllous five-pointed cups, a monopetalous bell-shaped corolla cut in five at the brim; five stamina, and two germina and styles, succeeded by two unilocular capsules, with many seeds.

The species are,

1. **APOCYNUM frutescens.** Shrubby upright Ceylon Dog's-Bane. (*Erect shrubby stalk, lanceolate-oval, smooth shining leaves, and an acute corolla, with hairy throat.*)

Varieties.

Purple-flowered,

Yellow-flowered.

2. **APOCYNUM reticulatum.** Netted, vein-leaved climbing Indian Dog's-Bane. (*A volubilate climbing perennial stalk, and egg-oval veined leaves.*)

Varieties,

Purple-flowered.

White-flowered.

These are lactescent or milky plants, somewhat succulent, and should be planted in pots of light sandy earth; and are propagated by cuttings and layers.

ARCTOPUS (*Arctopus.*) (*Polygamia dioecia.*)

A genus consisting of but one species; a low Æthiopian perennial, with divided, laciniated, and fringed prickly leaves, and small flowers in umbels; consisting each of five petals, five stamina, and two styles, succeeded by two naked seeds.

The species is,

ARCTOPUS echinata Echinated or Hedge-hog, prickly-leaved African Arctopus.

It is propagated by seed in a hot-bed, and by slipping the roots.

ARISTOLOCHIA. BIRTHWORT. (*Gynandria hexandria.*)

One species, sometimes retained for variety in our stoves; an herbaceous climbing perennial from India, with

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with heart-shaped leaves, and clusters of monopetalous, tubular, irregular flowers, without stamina or style, but six gynandrious anthera, and a six-parted stigma, and an oblong, sexangular capsule, with depressed seeds.

The species is,

ARISTOLOCHIA indica. Indian climbing Birthwort. (*Volubilate-climbing stalk; oblong heart-shaped leaves, and peduncles with many purple flowers.*)

Propagate it by seeds and cuttings of the stalks in a hot-bed, and by slips of the root.

ARUM (*Arum*) or WAKE-ROBIN. (*Gynandria polyandria.*)

A genus mostly of herbaceous perennials, and some shrub-like plants, of which are some tender exotics of America and Asia, &c. entertained here in our stove collections, as plants of curiosity, for their singular leaves, and club-shaped gynandrious flowers; are mostly acaulous plants, or without stalk, the leaves and flowers rising immediately from the root; and some are caulescent, or stalky, rising from half a yard, to one or two yards high; furnished with large oval, heart, and arrow-shaped leaves, and in the middle of the leaves a large spadiceous club-shaped flower, protruded from a large monophyllous spathe, no corolla or petals, but a thick club-shaped, coloured spadix, covered with the fructification, consisting of numerous anthera and germina, succeeded by many globular, unilocular red berries.

The most remarkable species are,

Acaulous, or without stalk.

1. *ARUM Colocasia* (*Colocasia.*) Greater Ægyptian Arum. (*Without stalk, target-shaped, egg-oval repand leaves, half two-parted at the base.*)

2. *ARUM divaricatum*. Divaricated Indian Arum. (*Without stalk, and heart-shaped hastated leaves, divaricating asunder.*)

3. *ARUM trilobatum*. Three-lobed Ceylon Arum. (*Without stalk, arrow-shaped, three-lobed leaves, and sessile flowers.*)

4. *ARUM esculentum*. Esculent, or eatable American Arum. (*Without stalk, target-shaped-egg-oval, entire leaves, two-parted at the base.*)

5. *ARUM*

5. *ARUM macrorrhizon*. Long-rooted Indian Arum. (Without stalk, target-heart-shaped, repandous leaves, divided at the base.)

6. *ARUM peregrinum*. Strange American Arum. (Without stalk, obtuse heart shaped, pointed leaves, with round angles.)

7. *ARUM sagittatæfolium*. Arrow-leaved Brazilian Arum: (Without stalk, arrow shaped, triangular leaves, with acute divaricated angles.)

8. *ARUM pentaphyllum*. Five-leaved Indian Arum. (Without stalk, and compound leaves of five lobes.)

Caulescent, or with stalks.

9. *ARUM arborescens*. Tree-like American Arum. (Erect tall stem, and arrow-shaped leaves.)

10. *ARUM auritum*. Aurited, or eared-leaved climbing American Arum. (Climbing rooting stalks, and heart-shaped ternate leaves, having lateral lobes, like ears.)

All these plants have perennial roots, which are mostly thick and fleshy, the leaves large and broad, and the flowerstem rising among them, supports a single spathe, protruding the spadex, or gynandrious pistillum, elevated like a column, sustaining numerous florets, devoid of petals, and which succeed to a cluster of berries.

Keep them in pots of rich earth, and the acaulous kinds propagate abundantly by off-set roots; and the two caulescent kinds by cuttings of their off-set shoots, stalks, &c. assisted by a hot-bed.

ARUNDO (Reed.) *BAMBU CANE*, or GREAT INDIAN REED. (*Triandria digynia*.)

For the stove this genus furnishes one or two tree-like perennials, rising with erect reed-like firm stems, in the first sort twenty feet high in one season; the other five or six; garnished with very large, long spear-shaped pointed leaves, and husky bivalvous flowers, in spikes and panicles; having three stamina, two reflexed styles, and a single naked seed in each floret.

The species is,

ARUNDO Bambos. (*Bambos*.) Bambo Cane, or Great Indian Reed. (Ternate sessile spikes, and many flowers in each cup.)

2. *ARUNDO* (*Donax*) *versicolor*. Variegated Indian Reed. (Variegated leaves, diffused panicles, and three flowers in each cup.)

They

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They are natives of India, residents of marshy soils, where the *Bambo Cane* grows thirty or forty feet high, with large tree-like stalks; but the *Verficolor* kind being a tender variety of the Portugal Reed (See *Hardy Herbaceous Plants*) grows only four or five feet high, and will succeed in a green-house, though more prosperously in a stove; keep both these sorts in pots of rich moist earth, supplied with plenty of water; they are easily propagated by slipping the off-sets of the roots.

ASCLEPIAS. SWALLOW-WORT. (*Pentandria digynia.*)

Of this genus there are some tender, herbaceous ornamental flowery perennials, of tall growth, natives of the warm parts of America, Asia, &c. and retained here in our stoves for variety; rising with upright firm stems, from five to six or seven feet high; adorned with large spear-shaped and oval, opposite leaves, and quinque-partite scarlet and white flowers, in umbellate clusters; having five-parted cups, a monopetalous corolla cut into five segments, inclosing five horned nectaria, five minute stamina, two oval gerмена, with two styles; succeeded by two large oblong pods, filled with compressed seeds.

The species are,

1. ASCLEPIAS *curassavica*. Curassavican Scarlet Asclepias. (*A single stalk, spear-shaped petiolated smooth leaves, and erect single umbels of scarlet and orange-coloured flowers.*)

2. ASCLEPIAS *gigantea*. Giant Indian Asclepias. (*Tallest upright stalks, and large oblong-oval amplexicaul leaves.*)

They are milky plants, with fleshy fibrous roots, and of elegant growth; remarkably beautiful when in flower, the first sort particularly, continuing from June or July till October; and are propagated by seed, occasional root off-sets, and by cuttings.

ASPARAGUS (*Asparagus.*) DRAGON TREE. (*Hexandria monogynia.*)

For the stove is one tree-like plant from India, of singular growth, rising with a strong unbranched, fibrous pithy trunk, twelve or fourteen feet high, crowned at top by a large cluster of long, narrow, sword-shaped leaves, a yard or more long, hanging down all around, and hexapetalous, hexandrious flowers in bunches; succeeded by cherry-shaped berries of three cells, with two or

or three roundish seeds; but does not flower in these parts.

The species is,

Draco (*Dracæna*.) DRAGON TREE.

This species has been mentioned in this place by mistake, it belonging to the genus *Dracaena*, to which we refer the readers for the description thereof, and of the other species of that family.

It demands culture in all eminent stove collections, for its singular growth: abroad is obtained, by incision, a gummy medical red juice, called Dragon's-Blood; hence the name Dragon-Tree: it is propagated by seed from abroad, sowed in pots, plunged in the bark bed.

B.

BANISTERIA (*Banisteria*.) (*Decandria trigynia*.)

A genus consisting mostly of climbing shrubby exotics of America and Asia, rising with twining-climbing stalks to a great height; furnished with oval and oblong leaves, and pentapetalous, papilionaceous-like, yellow and blue flowers, in terminal and lateral clusters; having five-leaved cups, five unequal petals, ten stamina, three germina and styles, succeeded by three winged capsules, each having one seed.

The chief species in our gardens are,

1. *BANISTERIA laurifolia*. Bay-leaved Jamaican Banisteria. (*Oblong egg-oval stiff leaves, and terminal clusters of yellow flowers.*)

2. *BANISTERIA benghalensis*. Bengal Banisteria. (*Ob-long-egg-oval, sharp pointed leaves, lateral clusters of blue flowers.*)

3. *BANISTERIA dichotoma*. Forked American Banisteria. (*Egg-oval leaves, and forked clusters of yellow flowers.*)

4. *BANISTERIA fulgens*. Shining-fruited American Banisteria. (*Sub egg-oval leaves, downy underneath, and brachiate or winged clusters of flowers*)

5. *BANISTERIA purpurea*. Purple American Banisteria. (*Egg-oval leaves, and lateral spikes of purple flowers.*)

6. *BANISTERIA brachiata*. Brachiated or Cross-branching American Banisteria. (*Branches extending like arms, opposed cross-ways, and sub egg-oval leaves.*)

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These are all propagated by seed obtained from abroad, assisted by a hot-bed; also by cuttings and layers in the bark-bed of the stove.

BARLERIA (*Barleria.*) (*Didynamia angiospermia.*)

Consists of tender American and Asiatic perennials, of an undershrubby nature; rising with several slender stems, from three or four, to six or eight feet high; garnished with oval, lanceolate, and roundish opposite leaves, attended by spines; and tubular labiated flowers, having unequally four-parted cups, a funnel-shaped corolla divided in five parts; two long, and two short stamina, oval germen, and single style, succeeded by a quadrangular, membranous, bilocular pericarpium, with two or three roundish seeds.

The noted species are,

1. **BARLERIA** *Prionites* (*Prionites.*) Indian quaternate-spined Barleria. (*Axillary spines, quaternate, or by fours, and oval entire leaves.*)

2. **BARLERIA** *solanifolia*. Solanum-leaved American Barleria. (*Axillary spines, and narrow spear-shaped, slightly indented leaves.*)

3. **BARLERIA** *buxifolia*. Box-leaved Indian Barleria. (*Opposite, single axillary spines, and small roundish entire leaves.*)

4. **BARLERIA** *longifolia*. Long-leaved American Barleria. (*Spines in a verticillus, or whirls, and long sword-shaped, rough leaves.*)

5. **BARLERIA** *coccinea*. Scarlet American Barleria. (*Without spines, and egg-oval, slightly indented, petiolated leaves.*)

6. **BARLERIA** *cristata*. Cristated Indian Barleria. (*Oblong entire leaves, and two broad calycinal lobes, ciliated, and the other two narrow and acute.*)

A plant or two of each may be in the stove for variety, but the first sort is the most popular in our gardens: they are propagated by seed, forwarded in a hot-bed, and by cuttings, assisted by the same means.

BASELLA. MALABAR NIGHTSHADE. (*Pentandria trigynia.*)

A genus composed of two or three singular herbaceous, succulent, climbing exotics, from India and China, rising with succulent purple stalks, mounting by support a considerable

derable height; garnished with heart-shaped, and oval, thick, succulent, purple leaves, and pitcher-shaped red and white flowers, without cups, a fleshy, monopetalous corolla, swelling at the base, and dividing in six at the brim; five stamina, and three styles, and the fleshy permanent corolla becomes of a berry-like form, including one seed.

The species are,

1. *BASSELLA rubra*. Red Malabar Nightshade. (*Subcordate plane leaves, and flowerstalks singly.*)
2. *BASSELLA alba*. White Malabar Nightshade. (*Egg-oval waved leaves, and single flowerstalks, longer than the leaves.*)

Keep them in pots of dry light earth, placing tall stakes for their support; and are propagated by seeds and cuttings, in a hot-bed, or the stove bark-bed.

BAUHINIA. MOUNTAIN EBONY. (*Decandria monogynia.*)

Consists of several species of shrub and tree kinds, natives of the warm parts of America and Asia, growing from eight or ten, to fifteen or twenty feet high; garnished with oval and heart-shaped, lobated leaves, and large pentapetalous flowers in spikes, having tubulous five-parted cups, five spear-shaped, or roundish petals, ten stamina, oblong germen, and declining style; succeeded by a taper pod, with roundish seeds.

The principal species are,

1. *BAUHINIA acuminata*. Acuminate-leaved Indian Bauhinia, or Mountain Ebony. (*Egg-oval leaves, with half-oval acuminate lobes.*)
2. *BAUHINIA tomentosa*. Downy Indian Bauhinia. (*Heart-shaped leaves, with semi-orbicular downy lobes.*)
3. *BAUHINIA purpurea*. Purple Indian Bauhinia. (*Almost-heart-shaped leaves, with two roundish lobes, downy underneath.*)
4. *BAUHINIA aculeata*. Prickly American Bauhinia. (*Prickly stem, and roundish emarginated leaves.*)
5. *BAUHINIA divaricata*. Divaricated-leaved American Bauhinia. (*Egg-oval leaves, having two lobes divaricated asunder.*)
6. *BAUHINIA unguolata*. Ungulated or clawed-leaved American Bauhinia. (*Egg-oval, two-horned leaves, having two narrow uparallel lobes.*)

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7. *BAUHINIA scandens*. Climbing Malabar Bauhinia. (*A cirrhose-climbing stalk, and large heart-shaped, bifid leaves.*)

Most of these shrubs flower ornamentally in summer, in spikes and panicles, at the sides and ends of the branches, which in the different species are, red, white, yellow, &c. and in some they impart a fragrant odour.

They are raised from seed obtained mostly from abroad, and sowed in pots plunged into the stove bark-bed, &c. and by cuttings and layers, by the like assistance.

BELLONIA (*Bellonia*) (*Pentandria monogynia*.)

A genus consisting of but one species, a shrubby American plant of eight or ten feet growth, furnished with oval rough leaves, and in panicles of wheel-shaped, five-parted flowers, with five stamina and one style, and a turbinate pericarpium, filled with small round seeds.

The species is,

BELLONIA aspera. Rough American Bellonia. (*It is propagated by seeds and cuttings in a hot-bed.*)

BESLERIA (*Besleria*) (*Didynamia angiospermia*.)

A genus consisting of three species of ligneous, American exotics, adorned with oval and lanceolate nervose leaves, and quinquepartite lip flowers, in clusters and singly; having erect quinquefid cups, a monopetalous, tubular, labiated corolla, cut into five parts; two long and two short stamina, oval germen, and one style, succeeded by an oval, unilocular berry, with small seeds.

The species are,

1. **BESLERIA Melletifolia** (*Melletifolia*.) Branching-flowered Besleria. (*Egg-oval leaves, and branching peduncles of flowers.*)

2. **BESLERIA lutea**. Yellow Besleria. (*Spear-shaped leaves, and simple peduncles of yellow flowers, growing in clusters.*)

3. **BESLERIA cristata**. Crested Besleria. (*Creeping root and stalks, oval serrated leaves, and single footstalks, sustaining one flower, having a five-leaved involucre.*)

They flower in summer, sometimes furnishing ripe seeds, by which they may be raised, and by cuttings, &c. in a hot-bed.

BIGNONIA (*Bignonia*.) TRUMPET FLOWER. (*Didynamia angiospermia*.)

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It furnishes for the stove collection some tender tree and shrub kinds, of upright growth and climbers, from the warm parts of America, ornamented with digitated, and trifoliate, and quinquesfoliate, and compound leaves, and long, tubulose ringent flowers, singly and in clusters; having quinquesfid cups, a long, tubular bell-shaped corolla, unequally five-parted at top, with the two upper long parts reflexed, the others spreading; two short, and two longer stamina, an oblong germen, slender style, and a bivalve-bilocular pod, containing winged seeds, placed imbricatim.

The species of note are,

1. *BIGNONIA Leucoxylon* (*Leucoxylon*.) Digitated Barbadoes Trumpet Flower. (*A tree-like stem, digitated leaves, having egg-oval, sharp-pointed, entire lobes.*)
2. *BIGNONIA triphylla*. Three-leaved Vera-crucian Bignonia. (*Shrubby, erect stalk, trifoliate leaves, with oval, acuminate lobes.*)
3. *BIGNONIA pentaphylla*. Five-leaved Jamaica Bignonia. (*Digitated five-lobed leaves, with sub-egg-oval entire lobes.*)
4. *BIGNONIA peruviana*. Peruvian decompound-leaved climbing Bignonia. (*Decomound leaves, with cut lobes, and tendrils at the joints.*)
5. *BIGNONIA indica*. Indian bipinnated Bignonia. (*Bipinnated leaves, having nearly heart-shaped, acute, entire folioles.*)
6. *BIGNONIA paniculata*. Paniculated climbing American Bignonia. (*Conjugate, cirrhose leaves, with oval-heart-shaped ovate folioles, and paniculate clusters of violet-coloured flowers.*)
7. *BIGNONIA capreolata*. Capreolated climbing American Bignonia. (*Conjugated cirrhose leaves, with heart-shaped-lanceolate folioles.*)

These exotics are retained here in eminent stove collections for variety; allowing the climbing kinds support of tall stakes; and are raised from seed, and by cuttings, by the assistance of a hot-bed, or the bark-bed in the stove.

BIXA (*Bixa*) *ARNOTTO*. (*Polyandria monogynia.*)

One species only belong to this genus, a South-American evergreen shrub, of eight or ten feet growth, with a branchy regular head, adorned with heart-shaped alter-

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nate leaves, and multipetalous red flowers, terminating the branches in panicles; having ten oblong petals in a double series, many stamina, oval germen with one style, succeeded by a large oval, bivalve, unilocular, red pulpy seed capsule, in great use among the Dyers, &c.

The species is,

Bixa Orellana (*Orellana*.) American Bixa, or Annotta.

It makes a good variety in the stove, and is propagated by seeds and cuttings in the bark-bed.

BOCCONIA. GREATER TREE CELANDINE. (*Decandria monogynia*.)

A genus consisting of but one species; a beautiful evergreen shrub, native of Mexico and Jamaica, admired for the elegance of its large oblong, deeply-finnated glaucous leaves, near a foot long, and half as broad, and apetalous flowers, terminating the branches in loose spikes; having two-leaved cups, no petals, twelve short filaments, large roundish germen, and semi-bifid style, succeeded by an oval, unilocular, pulpy fruit, with one seed.

The species is,

Bocconia frutescens. Shrubby Mexican and Jamaica Bocconia.

This elegant shrub demands culture in all good collections, as it effects a very distinguishable variety in its luxuriant foliage; and is raised from seed in a bark-bed, and by the same means, try it by cuttings and layers.

BOERHAVIA (*Boerhavia*.) (*Monandria monogynia*.)

A genus of herbaceous exotics of the warm parts of America and India, rising with upright and climbing stalks, according to the different species, furnished with small oval, and roundish and heart-shaped leaves, and campanulate red, yellow, and scarlet flowers, in loose panicles and clusters at the sides and ends of the branches, having no cups, a bell-shaped pentangular corolla, one stamina and style, succeeded by an oblong naked seed.

The species are,

1. *BOERHAVIA erecta*. Erect Vera-crucian Boerhavia. (*Erect smooth stalks, and oblong-ovalish opposite leaves.*)

2. *BOERHAVIA diffusa*. Diffuse-stalked Indian Boerhavia. (*Diffused stalks, and roundish ovate leaves.*)

3. *BOER-*

3. *BOERHAVIA scandens*. Climbing Jamaica Boerhavia. (*Climbing stalks; and flowers having two stamina.*)

They are retained here in curious collections for variety; and are propagated by seed, and slips of the stalks and roots, assisted by a hot-bed.

BOMBAX. SILK-COTTON TREE. (*Monadelphica polyandria.*)

A genus composed of three singularly large tree kinds, of such astonishing volume and altitude in their native soil, Asia, Africa, and America, that, some writers affirm, sixteen men cannot fathom their trunks, nor an arrow reach their top; and (say travellers) with heads so widely diffused, that 20,000 men in arms might stand under the branches, adorned with beautiful, large, digitated, or fingered leaves of five, seven, and nine long folioles, connected at the base; and polyandrious and pentandrious flowers, having bell-shaped quinquefid cups, a corolla divided in five oval segments, numerous monadelphious stamina, round germen, with multipartite style, and the germen succeeding to a large, turbinated, ligneous, quinquelocular capsule, full of a silky-cottony down, and seeds.

The species are,

1. **BOMBAX Ceiba** (*Ceiba.*) Quinate-leaved Indian Bombax. (*Leaves having five lobes, and polyandrious flowers.*)

2. **BOMBAX heptaphyllum**. Seven-leaved American Bombax. (*Leaves having seven folioles, and pentandrious flowers.*)

3. **BOMBAX pentandrum**. Pentandrious Indian Bombax. (*Leaves having seven or nine folioles, and pentandrious flowers.*)

A tree or two of each species claim admittance in all hot-house collections, for curiosity and variety of their singular digitated foliage; and are raised from seeds from abroad, sowed in pots, and germinated in a bark bed; also by cuttings and layers.

BONTIA. BARBADOES WILD OLIVE. (*Didymia angiospermia.*)

Consists of one species, an evergreen tree-like shrub of regular branchy growth; adorned with oblong, narrow, crenated, thickish leaves, and tubulous flowers at the sides of the branches; having small quinquefid cups, a long

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tubular

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tubular corolla, ringent above; two longer and two shorter stamina, oval germen, single style, and large oval berry, containing one nut.

The species is,

BONTIA daphnoides. Spurge-laurel-leaved Wild Barbadoes Olive.

It grows pyramidally, always in leaf, makes a handsome appearance; and is propagated by seed and cuttings, forwarded in a hot-bed, or the stove bark-bed, &c.

BORASSUS. MALABAR PALM TREE. (*Palmae flabellifolia.*)

A genus of the Palm tribe, consisting of only one species, a native of India, rising with a single naked stem, ten or twelve feet high, adorned at top with very large fan-shaped, singular leaves, composed of many long folioles or lobes, attached at the base to a long foot-stalk, and fold over one another, and spread out like a fan, of large expansion; and between the leaves come out the spadix or flowers, in panicles or spikes, male and female, on the same, or different plants, produced from a spathe, each flower having three leathery petals, six stamina in the males, in the females an oval germen, and awl-shaped style, succeeded by small, oval, unilocular, pulpy, fibrous fruit, containing a hard bony nut.

The species is,

BORASSUS flabellifolia. Indian Fan-leaved Palm Tree. (*Palmed, plaited, fan-shaped leaves, with spinous foot-stalks.*)

This plant deserves notice for the curious singularity of its vast flabelliform leaves, which afford an admirable fine variety, and the plant is produced from the seed or nuts, detached from the fruit, when obtained from the West-Indies, and planted singly in pots, plunged in the bark-bed.

BRABEJUM. AFRICAN ALMOND. (*Tetrandria monogynia.*)

One species is an African tree of moderate stature, branching in a pyramidal form, furnished with very long narrow leaves around the branches at each joint, in a sort of radius, and white flowers of four narrow obtuse petals, four stamina, small oval hairy germen, and slender

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der style; the germen becoming an oval berry, with one nut.

The species is,

BRABEJUM stellatifolium. Starry-leaved Æthiopian Brabejum.

This is a handsome plant, flowers ornamentally in the spring, and is propagated by layers in pots, plunged in the bark-bed, or cuttings by the same method, covered down with a hand-glass.

BROMELIA (Ananas.) PINE-APPLE, &c. (*Hexandria monogynia*)

This genus is famous for furnishing that admired species the *Ananas*, or Pine-apple plant, a native of Surinam, together with several other species from the hot parts of America; all herbaceous, evergreen perennials of aloecaceous-like growth, rising with a large cluster of very long, taper, sharp-pointed, erect leaves, immediately from the crown of the root; and from the centre of the leaves an upright robust stalk, from one to two, or three feet high, elevating at top a large oblong-oval, fleshy erect fruit or receptacle, full of tubercles, arranged in regular order, and the top crowned with a tufty head of leaves, called the crown, and small blueish flowers, produced singly at all the tubercles; having each a small trigonous, trifid, persistent cup, a corolla of three petals, six stamina, a small germen and filiforme style, succeeded in the germen by a trilocular capsule, with angular seeds; and as the flowers fade, and seeds ripen, the fruit enlarges to an oval, conical, or pyramidal form, ripening to a golden colour, diffusing a most fragrant odour, in the *Ananas* particularly, and of a delicious rich taste, surpassing most other fruits in the world.

There are several species, the first of which being the *Ananas*, or *Pine Apple*, is the most valuable, and furnishes several eminent varieties.

The species are,

1. *BROMELIA Ananas (Ananas)* or Pine-Apple Plant. (*Long, erect, sharp-pointed, ciliated, prickly leaves, and amidst them a tufted spike, becoming a large erect fruit, crowned by a tufted head of leaves.*)

Varieties.

Oval Pine Apple, or Queen Pine.

Pyramidal, or Sugar-loaf Pine Apple.

Green Sugar-loaf Pine Apple.

Smooth, or spineless-leaved King Pine.

Shining green-leaved Pine, with few spines.

Broad green-leaved bogwarp Pine.

Black-leaved Antigua Pine.

Olive-coloured Pine.

Red-fruited Pine.

Long narrow-leaved Pine.

Grenada marbled leaved Pine.

Silver striped-leaved Pine.

Gold striped-leaved Pine.

2. *BROMELIA Pinguin* (*Pinguin*) or Tall Jamaica Wild Pine. (*Long sharp-pointed, ciliated thorny leaves, and a tall stalk, terminated by a cluster of small oblong fruit, like a Pine Apple.*)

3. *BROMELIA Karatas* (*Karatas*) or acaulous American Wild Pine. (*Very long leaves, armed with crooked thorns, scarcely any fruit-stalk, but a cluster of long narrow fruit, almost close to the root.*)

4. *BROMELIA lingulata*. Lingulate-leaved American Bromelia. (*Tongue-shaped, obtuse-pointed, sawed-spinous leaves; alternate spikes of flowers, and small oval fruit.*)

5. *BROMELIA nudicaulis*. Nudicaulous American Bromelia. (*The radical leaves indented-spinous, and the caulin leaves entire.*)

The first species, *Bromelia Ananas*, Common Pine Apple, or *Anana*, is the only sort cultivated for its fruit, and constitutes the principal furniture of our hot-houses; being planted singly in pots of rich, light, loamy earth, and plunged in the bark-bed, and in several rows lengthways, the tallest behind, and the others in regular gradation of height, to the lowest in front; producing their fruit-stalks in spring, arising with the embryo fruit at top, gradually advancing in height, and the fruit in magnitude, till June, July, or August, &c. when the fruit acquires full maturity of size and ripeness, in magnitude from three or four, to six or eight inches in length, by three or four diameter, or more; when it should be cut with part of the stalk, and served to table with crown of leaves entire, and when to be eaten, the crown should be detached by twisting it off, not cut, which serves to plant, to propagate the species, forming a new plant

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plant capable of producing a fruit as above, in a year or two after; and as several small suckers are often emitted at the base of the fruit, these should also be slipped off to serve as young plants for propagation, likewise the suckers rising from the roots; all of which, both crowns and suckers, being planted in small pots, and plunged in the bark-bed, or any hot-bed, under glasses, they readily grow, and become proper plants; and which being shifted occasionally into larger pots, and plunged in the bark-bed of the hot-house, they will produce fruit the second year.

The other four species being plants of much less account, not producing eatable, at least, not palatable fruit, are only retained for variety and observation, in large stove collections, in which they effect a very agreeable diversity, but their fruit is small, and of inconsiderable value; they must be planted each in a pot of rich earth, and either plunged in the bark-bed, or any where in the house, where most convenient for room; and are easily produced from the crowns and suckers, as observed of the *Ananas*.

All the species, including the Pine-Apple in all its varieties, and the other four species, being tender exotics from the hot parts of South America, &c. must always be retained in the hot-house or stove conservatory, and in which the *Ananas*, particularly, must always be plunged in the bark bed of that department, to receive the nourishing moist warmth of the bark immediately about the roots, otherwise they will not produce large fruit.

To raise Pines in the best perfection, two hot house departments are requisite; that is, besides the main hot-house there should be a smaller stove, sometimes called a succession-house, in which to raise and bring forward the young plants of each year, as a successional supply, to furnish the main stove or fruiting-house, which every autumn, about October, should be filled with large plants, raised to the proper size in the aforefaid succession-stove, or nursery pit.

Or if there was also a smaller department, commonly called a nursery-pit, being about six feet wide, by five deep behind, and four in front, formed with a nine inch

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brick wall. with two flues for fire, ranging along the upper part of the back wall within, and with sliding glass sashes at top; filling this with Tanner's bark a yard deep, and in which might strike the crowns and suckers, and nurse them the first winter, or even for one year, and then in autumn removed to the succession-house, then the year after into the mean stove.

General Culture.

The method of propagating and raising the Pine Apple is by the crown growing on the top of the fruit, suckers emitted at the base, and by suckers issuing from the root between the leaves, as formerly noticed, all of which are equally eligible for propagation, as they readily emit roots, and commence proper plants, producing fruit in two years.

The most general season for this work of propagation is principally in autumn, July, or August and September, when the fruit is ripe; at which time, and not before, both crowns and suckers are of the proper growth to be taken off the parent plant; taking the crowns off with a gentle twist, and slip off the suckers with the thumb, laying or hanging them up in the stove a few days, till the bottom part which adhered to the fruit or plant is healed; then slipping off two or three of the bottom leaves, plant each in a small pot of light, rich, loamy compost; give a little water, and plunge them directly into a nursery hot-bed of Tanner's bark, made in the bark pit, &c. or in a dung hot-bed, defended with a frame and lights, or in the bark bed of the hot-house, if of good heat, and there is room; though it is more eligible to have them in a new bark-bed made in a pit, or in a nursery frame, and in which remain all winter, or a substantial dung-bed, as aforesaid, as hereafter explained.

During the winter they must be but very moderately watered, and the heat of the bark kept up by forking it up to the bottom once in two or three months, or oftener, if the heat decreases to require it; and if there are flues for fire heat, make moderate fires every cold evening, from November till April or May, and occasionally in the morning, in very cold weather; also covering the glasses on nights with warm mats or canvas clothes in severe frosts,

frosts, indulging the plants with the admission of fresh air in the middle of mild sunny days, at all opportunities.

In spring, about the beginning or middle of April, it is proper to shift the largest plants into pots a size larger, having some fresh compost in the bottom, and turn the plants out of their present pots, with the ball of earth about their roots, and plant them in the new pots, filling up with more new mould, and finish with a moderate watering, and having the bark bed fresh forked over, and refreshed with about one third of new tan, previously removing the most earthy part of the old at top, and fork up the new and remaining old bark together, and then plunge the pots of plants in regular order.

After this, the plants receiving the benefit of the fresh heat, they will set to growing freely; give fresh air moderately every warm sunny day only, and waterings once or twice a week, in the forenoon of sunny mild days, till May or June, then during the hot weather, water either in the morning early, or towards the evening,

About the end of July the plants will probably be well advanced in growth, and again want shifting into large pots, finally to remain for fruiting; observing the same method as before, the largest of which will be fit for the fruiting-house by October following.

Toward the end of September begin to get ready for the fruiting-stove, by procuring a sufficient quantity of new Tanner's bark from the tan-yards to fill the bark-pit entirely therewith, previously, when the house is cleared from old plants past fruiting, cast out all the old tan, or may screen it, retaining what does not pass through, and remove the waste earthy part entirely away; and then fill in the new tan, working up the remaining old as you proceed; and in a week or ten or twelve days, the bed will be arrived to a due degree of heat; then remove the pots of plants out of the succession-house, and plunge them here in the new bark-bed, with the proper order and regularity, which will add greatly to the beauty of them; observing, as soon as the bed has imparted a due warmth to the mould in the pots, to give a light watering over the leaves, which will be a considerable refreshment to the plants.

The plants being now in the fruiting-house in October, you must be careful all winter, from the beginning of November,

November till April or May, to make fires every evening soon after sun-set, and in cold raw and frosty mornings, and in very severe frosts, and no sun, continue the fire all day long, and give moderate waterings once or twice a week; and in all mild sunny days admit fresh air, by sliding some of the lights a little open: observing, as the spring and the warm seasons advance, to encrease the portion of air, and the supplies of water; and decrease the firing by degrees, leaving it off entirely in May; and during the hot season admit a large share of free air every calm, sun-shining day, from nine or ten in the morning, to three, four, or five in the evening. then shut all close; likewise, augment the waterings to about two or three times a week in very hot weather, to encourage a free growth of the fruit, and promote its magnitude.

In performing the general waterings, it is advisable in winter not to water too freely over the leaves, for the wet is apt to lodge long between them in that season, to their prejudice; likewise in the spring, when the plants are in flower, you should rarely water over their tops; but let the water be conducted by a pipe, or a long spouted watering-pot, principally to the earth of the pots, about the roots of the plants; and in summer, in warm sunny weather, may occasionally water all over, which in that season will greatly refresh the plants, and prove beneficial to the growth of the fruit.

The season of the Pine Apple ripening is chiefly in autumn; but the fruit commonly comes dropping in gradually from June or July, till September or October; and the tokens of its full maturity is, its assuming a beautiful golden colour, though some discover different tints peculiar to them, and the most certain notice of full ripeness is their imparting a delightful perfumed fragrance; being careful always of gathering it when in full perfection, before it becomes soft and diminished in its peculiar rich vinous flavour: generally cut it from the plant with several inches of the stalk, and preserve its crown of leaves at top, till served up to table.

As the same individual plant never produces fruit but once, an annual supply of young plants must always be raised from the crowns and suckers, in the manner before directed, the old plants always furnishing them plentifully when the fruit arrives to maturity; one crown to each

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each fruit, and several suckers to the bottom of the plant, and often several smaller ones at the base of the apple.

The culture of the Pine-Apple is sometimes, in default of the convenience of a hot-house or Tanner's bark, effected by dung hot-beds, defended with large garden frames and lights; the most commodious for this purpose is a large glass fronted frame constructed of timber, about a yard and half deep, behind, by a yard in front, six feet wide, and twelve long, furnished with three inclined sliding glass sashes at top, with upright ones in front and both ends, made also to slide open, the back being of strong planking, very closely joined; and which frame may be placed either immediately upon the hot-bed, or upon the top of a pit formed either of post or planking, or of brick work, the width and length of the frame, and three feet and half deep; upon this the frame is placed, and the hot-bed to be made the depth of the pit, or half a foot higher, to allow for settling, and when settled, covered with half a foot or more of Tanner's-bark or saw-dust, in which both to plunge the pots of plants, and to keep down the rank vapour and heat of the dung; and when the heat declines, it must be instantly renewed by adding strong linings of hot dung close against the back, front, and both ends of the pit, to its full height.

To have this every way convenient, you should have one or two other frames in the manner of those for cucumbers, but stronger and deeper, three feet six inches deep at the back, two and a half in front, serving as nursery frames, in which to strike and rear the crowns and suckers, and forward the young plants for a year to a fruiting state, without encumbering the fruiting-frame, or that in which the large plants are removed finally to produce their fruit.

Pines are also sometimes fruited by dung heat, under common hot-bed frames, having those of a deeper size to contain the fruiting plants.

That when designed to raise Pine-Apples by dung heat entirely, very substantial hot-beds, four feet high at least, are requisite, and when the frame is on, cover the top of the dung with six or eight inches depth of Tanner's bark, in which to plunge the pots, and keep down the rank vapour and heat of the dung, as aforesaid;

said; or in default of Tanner's bark, use saw-dust; and the heat of the bed is to be supported by adding strong linings of fresh hot dung around the outside of the bed, or, if the bed is made in a pit, apply the dung lining close against the outside of the wall, or planking, renewing the lining once a month or six weeks; assisting it also with the addition of dry litter in severe weather, around the whole, and up the back of the frame, &c. and at the end of eight, ten, or twelve weeks, when the bed declines its heat considerably, a new one must be made, removing the pots of plants therein, and managed as above; and about four new beds will be required in the course of a year, making the first in September or October, both for the young plants, or to receive the fruiting Pines.

Or Pines may be raised in perfection with a Tanner's bark bed made in a pit five or six feet wide, by three deep, not more than half sunk in the ground, formed either with a nine inch brick wall or planking, and on which a glass frame aforesaid is to be placed; and when the pit is filled with tan, plunge the pots therein; observing, a spare pit and frame is requisite for nursing the young plants till arrived at a fruiting state, then moved in their pots into the fruiting-frame in October.

BRUNIA (*Brunia*.) (*Pentandria monogynia*.)

A genus of shrubby African exotics of bushy growth, garnished with small linear leaves, and small monopetalous flowers in heads and clusters, having five stamina and one style.

The species of note are.

1. **BRUNIA nodiflora**. Knotted-flowered imbricated Brunia. (*Linear leaves, imbricated four ways, and knotted heads of flowers.*)

2. **BRUNIA lanuginosa**. Woolly Brunia. (*Linear spreading leaves, having the apex callous.*)

3. **BRUNIA ciliata**. Ciliated-oval leaved Brunia. (*Egg oval, sharp pointed, ciliated leaves.*)

4. **BRUNIA abrotanoides**. Abrotanoide globular-headed Brunia. (*Linear, lanceolate-spreading triquetrous leaves, callous at the apex, and globular heads of flowers.*)

5. **BRUNIA Lewisianus** (*Lewisianus*.) Spatulate fleshy-leaved Brunia. (*Spatulate-shaped, fleshy acute leaves.*)

6. **BRUNIA uniflora**. Single-flowered Brunia. (*Flowers growing singly.*)

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They are cultivated in curious collections to increase the variety; and are propagated by slips, cuttings, layers, and seed, assisted by a hot-bed.

BRUNSFELSIA (*Brunsfelsia*.) (*Pentandria monogynia*.)

Consists of one species; an eminent American shrub of six or eight feet growth; decorated with oblong-obtusate entire leaves, and large tubular spreading white flowers, several together at the ends of the branches; having bell-shaped quinquefid cups, a long funnel-shaped corolla, spreading in five parts above, five stamina, roundish germen, and single style, succeeded in the germen by a round saffron-coloured unilocular berry, with many seeds.

The species is,

BRUNSFELSIA americana. American Brunsfelsia.

This affords an agreeable variety, and flowers ornamentally; and is propagated by seeds and cuttings, vegetated by aid of the bark-bed, &c.

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CACTUS. MELON THISTLE, CEREUS or TORCH THISTLE, &c. (*Icosandria monogynia*.)

A genus of curious succulent thorny perennials, from the hot parts of South America, &c. consisting of many species, assuming various singularly curious growths, and very different from one another in structure and general habit; exhibiting a very entertaining variety; some sorts (*Melon Thistle*) growing in a large globular fleshy mass, close to the ground; others (*Torch Thistle*) with an upright fleshy angulated stem, without leaves or branches, elevated like a column, from fifteen or twenty, to thirty or forty feet high; some (*Creeping Cereus*) with long trailing creeping stalks, extending along the earth, or rooting in walls; and some (*Opuntia*, or *Indian Fig*) rising with compressed jointed, fleshy stalks and branches, growing out of one another in articuli or joints, in a singular manner; the whole generally armed, more or less with spines, but are mostly aphyllous, or without leaves; producing, however, many multipetalous

talous spreading flowers, some small, others moderately large, and some of them expanded almost a foot diameter, of splendid beauty; having tubular concave cups, a corolla composed of many obtuse spreading petals, different in the several species; twenty or more stamina, a germen under the receptacle, supporting one style, succeeded by an oblong fleshy fruit of one cell, filled with angular seeds.

There are many species, which assuming very different habit and appearances, they are divided into classes, according to their different growths.

Melon Thistle kinds.

The plants under this head are of very singular structure, grow in a large roundish fleshy mass, shaped like a large green, deeply-ribbed Melon, having no visible stem, no branches or leaves, sitting close to the earth, from twelve to fifteen or twenty inches diameter, and from one to two or three feet high; some deeply ribbed longitudinally, and armed with thorns, and some crowned with a prickly downy cap producing the flowers; in others the flowers issue from the sides of the plant.

The species are,

1. CACTUS *Melocactus* (*Melocactus*) or Greater Melon Thistle. (*A roundish body, with fourteen ribs or angles, and the ribs armed with clustered thorny tubercles.*)

Varieties.

(*Intortus.*) Intorted-fifteen-angled Melon Thistle. (*A roundish body, with fifteen contorted or spirally twisted angles.*)

(*Recurvus.*) Recurved-spined Melon Thistle. (*A roundish body, with fifteen angles, and broad recurved spines.*)

2. CACTUS *mammillaris.*) Mammillary Lesser Melon Thistle. (*A roundish body, closely covered with egg-oval tubercles, furnished with beards.*)

Variety.

(*Proliferus.*) Proliferous or Childing Mammillary Melon Thistle. (*A roundish body, very closely covered with tubercles, furnished with long white beards, and produce young plants from the sides.*)

These remarkably strange plants are of a very succulent nature, perennial in root and top; and in their native

five soil, the West-Indies, &c. they inhabit dry, rocky situations, so must here be retained in pots of dry sandy earth, or rubbishy compost, and disposed occasionally in the bark-bed, and on the tops of the flues or shelves in the stove, where young plants may be produced from seed sowed in pots, covered very lightly with earth, and plunged in the bark-bed; and sometimes by off-set young plants, issuing from the sides of the old ones.

Torch Thistle kinds, with tall erect stems.

These differ vastly in structure and appearance from the former, they rising each with an upright, columnar, angulated, green fleshy stem, to the stupendous height of thirty or forty feet in some sorts, without branches or leaves; and some are of much lower growth, and are mostly armed with clusters of spines on the ribs or angles.

The species are,

1. *CACTUS hexagonus*. Greater Hexangular Surinam Torch Thistle. (*Upright, very long columnar stalk, with six angles.*)

2. *CACTUS pentagonus*. Pentangular, long-jointed American Torch Thistle. (*Erect, upright, mostly five-angled stalk, growing in long joints.*)

3. *CACTUS tetragonus*. Quadrangular Torch Thistle of Curassoa. (*Upright long stalk, with four angles.*)

4. *CACTUS heptagonus*. Heptangular American Torch Thistle. (*Upright, oblong, seven-angled stalk.*)

5. *CACTUS repandus*. Repandous or Waved, octangular Torch Thistle. (*Upright, long eight-angled stalk, with compressed, repand or waved angles.*)

6. *CACTUS peruviana*. Peruvian sub-octangular Torch Thistle. (*Upright long, mostly eight-angled stalk, with obtuse angles.*)

7. *CACTUS lanuginosus*. Woolly nine-angled Torch Thistle of Curassoa. (*Upright long, sub-nine-angled stalk, with obsolete angles.*)

8. *CACTUS Royeni* (*Royeni*) or Sub decem-angular Torch Thistle of Royeni. (*Upright, jointed, sub-ten-angled stalk, with the joints almost oval.*)

These, like the Melon Thistles, being inhabitants of the hot parts of South America, affecting to grow in dry rocky

rocky places, and being very humid, require to be potted in light dry sandy compost, and are easily propagated by cuttings of the stalk and occasional side shoots; that in default of natural side suckers, the method practised is, to cut off the top of the stalk half a foot, or a foot or two in length, which having lain a week or two, to heal over the succulent wound of the cut, plant it in a pot plunged in the bark-bed, where it will readily emit roots and grow; and the parent plant, from which the cutting was taken, will, by the loss of its top, impart several side shoots, which may be detached, and planted as above.

Creeping Cereus kinds, with trailing and creeping stalks.

These have long slender creeping-rooting succulent stalks, trailing along the earth, or climb up walls, &c. by rooting and fixing themselves as they ascend, and are more or less armed with spines, and produce most beautiful flowers along the sides of the stalk; which, in the first sort particularly are admirably large and elegant.

The species are,

1. *CACTUS grandiflorus*. Grand-flowered, pentangular, creeping Cereus. (*Five-angled, climbing-rooting, jointed stalks, and beautiful white flowers, with very large, widely expanded bright yellow cups, opening in the evening, and decay next morning.*)

2. *CACTUS triangularis*. Triangular Brazilian creeping Cereus. (*Triangular creeping-rooting stalks.*)

2. *CACTUS parasiticus*. Parasitic cylindric creeping Cereus. (*Cylindric striated rooting, mucated stalks*)

3. *CACTUS flagelliformis*. Flagelliform or whip-shaped creeping Cereus. (*Roundish, slightly-ten-angled, flagelliform or whip-thonged shaped, trailing stalks, and beautiful purple flowers.*)

These creeping kinds require support, more particularly the *grandiflorous*, *triangularis*, and *parasitic* kinds, which should be placed near the walls in the stove, and their branches trained thereto, in which they will emit roots, fix themselves, and extend a considerable length, but the *flagelliforme* kind, which is the hardiest and the most common in our gardens, may either be supported or permitted to suspend its stalks loosely around the pot; this sort will also succeed in the green-house, though, if indulged with a stove, it will flower oftener, more abundantly and elegant,

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They are all easily propagated by cuttings of the stalks in spring and summer, planted in pots, and plunged in a hot-bed, or the bark-bed in the stove.

Opuntia or *Indian Fig* kinds, with compressed-jointed proliferous branches.

These are singular plants, rising with many compressed, broad, jointed, fleshy, prickly, almost leafless branches, produced proliferously out of one another, in many ovalish and roundish joints, which in some are compressed, others swelling; some elevated more or less from the ground, and others spreading low, and loosely disposed; adorned with multiparted, yellow and purplish, and whitish flowers from the surface and edges of the articuli or joints; succeeded by fig-shaped, prickly purple fruit, not eatable.

The species are,

1. *CACTUS Ficus-Indicus* (*Ficus-Indicus*) or *Indian Fig*. (*Proliferous-jointed erectish branches, with oval-oblong joints, and bristly spines.*)
2. *CACTUS Tuna* (*Tuna*.) *Tuna Major*, or *Greater Indian Fig*. (*Proliferous jointed, strong erect branches, with oval-oblong articuli or joints, and awl-shaped spines.*)
3. *CACTUS cochinelifer*. *Cochineal-bearing Great Indian Fig*. (*Proliferous-jointed, erect growing, tall branches, with oval-oblong, almost smooth, or unarmed articuli or joints; and blood red flowers and fruit, furnishing the cochineal insect, so valuable in dying scarlet colour.*)
4. *CACTUS curassavicus*. *Curassavian ventricose Indian Fig*, or *Pin-Pillow*. (*Proliferous-jointed branches, with cylindric-ventricose or bellied compressed articuli, or joints.*)
5. *CACTUS Phyllanthus* (*Phyllanthus*) or *Sword-blade Brazilian Opuntia*. (*Proliferous, sword-shaped compressed joints, with repand indented edges.*)
6. *CACTUS Periskia* (*Periskia*.) *Tree-like Opuntia*, or *American Gooseberry*. (*A tree-like stalk, with spreading branches, with recurved prickles in pairs, lanceolate-egg-oval succulent leaves, and gooseberry-like fruit.*)
7. *CACTUS portulacifolius*. *Purslane-leaved, Spinous Tree Opuntia*. (*A cylindric tree-like spinous stalk, and wedge-shaped retuse succulent leaves.*)

8. *CACTUS*

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8. *CACTUS spinosissima*. Most-spinous Indian Fig, or Robinson Crusoe's Coat. (*Long narrow compressed joints, closely armed with clustered spines.*)

9. *CACTUS monoliformis*. Monoliform, or Necklace-shaped Indian Fig. (*Proliferous joints, which are globular and armed with spines in glomerated clusters.*)

This class of plants, like those of the three preceding, exhibits a curious diversity in their singular growth, differing greatly in structure from all the others, and effect an admirable variety in collection, keeping them in pots of light sandy compost; and may be propagated abundantly by cuttings of their jointed branches, taken off in joints, planted in pots, and plunged in the bark-bed, &c.

CÆSALPINIA. BRASILETTO TREE. (*Decandria monogynia.*)

Consists of three or four tender tree and shrub kinds from the hot parts of America and Asia, &c. growing with slender branches, in one sort smooth, others armed with thorns, and doubly pinnated branching leaves, of many oval, heart-shaped and oblong folioles, and pentapetalous white and variegated flowers in long spikes; having pitcher-shaped quinquefid cups, five nearly equal, papilionaceous-like petals, ten stamina, oblong germen, single style, and an oblong compressed unilocular pod, with three or four seeds.

The species are,

1. *CÆSALPINIA brasiliensis*. Brazilian Brailetto Tree. (*Smooth or thornless stem and foliage.*)

2. *CÆSALPINIA crista*. Crested pentandrious-flowered Jamaica Cæsalpinia. (*Prickly stem, leaves composed of egg-oval folioles; and flowers with five stamina.*)

3. *CÆSALPINIA vesicaria*. Bladdery Jamaican Cæsalpinia. (*Prickly stem, and leaves composed of roundish, obcordate folioles.*)

4. *CÆSALPINIA Sappan* (*Sappan*) or Indian Cæsalpinia. (*Prickly stem, and leaves composed of oblong, unequally emarginated folioles.*)

These plants afford an agreeable variety in the stove collection; and are raised from seed sowed in pots of light earth, and plunged in a bark or other hot-bed; and may likewise try them by cuttings and layers by the like assistance.

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CAMELLIA (*Camellia*.) TUSSUBAKKI. (*Monadelphica polyandria*.)

A genus consisting of one species, a fine ornamental flowering shrub from Japan and China, producing broad evergreen leaves, and beautiful large rosaceous flowers with many united stamina, roundish germen, and multipartite style, succeeded by a ligneous capsule, with kidney-shaped seeds,

The species is,

CAMELLIA *japonica*, Japanese Rose-flowered Camellia, or Evergreen Japan Rose.

Varieties.

Red flowered Camellia.

White flowered Camellia.

Double Rose-flowered Camellia.

Propagate it by layers and cuttings, in pots plunged into the bark-bed, and by seeds.

CANNA. INDIAN FLOWERING REED, or INDIAN SHOT. (*Monandria monogynia*.)

A genus of curious, tall, herbaceous, flowery perennials of Asia, Africa, and America, with fleshy tuberous roots, sending out upright herbaceous stalks, four or five, to six or seven feet high, and many large, long, oval, and spear-shaped, nervose and smooth leaves, from ten or twelve, to eighteen inches in length, and the stalks terminated by spikes of ornamental flowers; having three-leaved coloured cups, a monopetalous corolla dividing in six segments, no stamina, but one anthera, a roundish germen with a flat style, succeeded by a roundish trilocular capsule, with globular seeds.

The species are,

1. CANNA *indica*. Indian Flowering Reed. (Egg-oval-ribbed or nervose leaves, pointed at both ends.)

Varieties.

Scarlet-flowered Indian Reed. Yellow-flowering Indian Reed.

Red-flowering Indian Reed. Spotted-flowered.

2. CANNA *angustifolia*. Narrow-leaved American Canna. (Spear-shaped, nervose petiolated leaves.)

3. CANNA *glauca*. Glauous-leaved Carolinian Canna. (Long lanceolate, petiolated sea-green leaves without nerves, and yellow flowers.)

They flower ornamentally in June, July, and August, succeeded by plenty of seeds, by which they may be propagated,

CAMEL-

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pagated, sowed in pots in spring, and plunged in a hot-bed, or in the bark-bed in the stove; and by occasional offsets of the root, and by slips and cuttings of the stalks.

CAPPARIS. CAPER TREE. (*Polyandria monogynia*.)

Consists of the common Caper Bush, retained occasionally both as a green-house, and as a stove plant, together with several other species for variety, all of the tree and shrub kinds; furnished with roundish and oval, and oblong spear-shaped leaves, in the different species, and quadripetalous spreading flowers, singly and in clusters; having cups cut in four concave segments, four large obtuse spreading petals, many stamina, a pedicelled germen without a style, but crowned by an obtuse stigma, and succeeded by a fleshy unilocular berry, with many seeds.

The species are,

1. CAPPARIS *spinosa*. Thorny Capparis, or True Caper Shrub. (*Roundish deciduous leaves, with thorny stipula, flowers growing singly, and oval capsules.*)

2. CAPPARIS *zeylanica*. Ceylon Caper Tree. (*Egg-oval acute leaves, thorny stipula, and solitary flowers.*)

3. CAPPARIS *Baducca* (*Baducca*) or Indian Tree Caper. (*Egg-oval-oblong, naked, evergreen leaves in clusters, and one-flowered peduncles.*)

4. CAPPARIS *Breynia* (*Breynia*.) Racemose-flowered American Caper. (*Oblong evergreen leaves, and racemose clusters of flowers, having but eight stamina.*)

5. CAPPARIS *Cynophallophora* (*Cynophallophora*.) Large shining-leaved American Caper. (*Large oval oblong, shining evergreen leaves, and peduncles having many terminal flowers.*)

6. CAPPARIS *ferruginea*. Ferruginous Jamaica Caper. (*Spear-shaped evergreen leaves, downy underneath, and umbellate clusters of octandrious flowers.*)

7. CAPPARIS *flexuosa*. Flexible-branched Jamaica Caper. (*Flexuose winding branches, oblong obtuse smooth perennial leaves, and terminal clusters of flowers.*)

A plant or two of each may be retained in capital collections for variety: the *Capparis spinosa*, or Common Caper, is hardy enough to succeed in the green house; all the others being inhabitants of hot countries, generally require a stove here; and are all propagated by

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seed, assisted in a hot-bed, and may be tried also by cuttings and layers, stuck in the bark-bed.

CAPSICUM (*Capficum*.) GUINEA PEPPER. (*Pentandria monogynia*.)

A genus consisting of two species of Indian exotics, for the stove; curious shrubby perennials, comprising several eminent varieties, admired for the diversity of their fruit, exhibiting a pretty variety in autumn and winter, the plants growing four or five feet high, with bushy regular heads, garnished with spear-shaped, oblong and ovalish leaves in the different varieties, and wheel-shaped white flowers, singly and in pairs; having persistent five-parted cups, a rotated, acutely-five parted, spreading corolla, five stamina, an oval germen and slender style, succeeded in the germen by a baccaceous hollow bilocular fruit, of various forms, sizes, and colours in the several varieties, containing many compressed seeds.

The species are,

1. **CAPSICUM frutescens**. Shrubby Indian *Capficum*. (*Shrubby, roughish perennial stalk, and peduncles singly, and in pairs.*)

Varieties.

Pyramidal yellow-fruited shrubby Capficum.

Conical red fruited.

Conical golden-fruited.

Berberry red-fruited.

Minute, oval, red-fruited, or Cayenne Pepper.

2. **CAPSICUM baccatum**. Berry-fruited shrubby *Capficum*. (*Shrubby, polished stem, and flower peduncles in pairs.*)

The pods of all the varieties are very hot and spicy, and the seeds are often insupportably acrid, but the young pods are nevertheless in estimation as a choice vegetable pickle. — See *Capficum* in the *Herbaceous Plants*.

These two species and varieties demand admittance in all capital collections, they growing bushy, and produce a vast abundance of flowers, succeeded by fruit of various forms, sizes, and colours, afford a very pleasing variety, and are all easily raised from seed sowed in the spring, in pots of rich light earth, and plunged in a hot-bed, raising the plants two or three inches high, then planted separately in pots, giving frequent waterings, and they will produce flowers and fruit the same year.

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CARICA.

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CARICA. PAPAW TREE. (*Dioecia decandria*.)

Consists of two remarkable tree-like Indian perennials, admired for their singularity of growth, vast, multipartite spreading foliage, and considerable clusters of flowers and fruit; they rising with an upright, large, soft, hollow stem, twenty feet high, decorated above with luxuriant, divided, many-lobed leaves, spreading two or three feet around, and male and female flowers on separate plants, the males growing on very long footstalks in clusters, having a funnel-shaped corolla, dividing above in five revolute segments, and ten stamina; the females produced singly, are large, bell-shaped, furnished with five spear-shaped petals, an oval germen and short style, crowned with five broad stigmas, succeeded in the germen by an immense, oblongish, fleshy, unilocular fruit, full of pulp and small oval seeds—not palatable to eat of English growth.

The species are,

1. CARICA *Papaya* (*Papaya*) or Common Indian Papaw. (*Leaves divided into many deeply sinuated lobes*.)

Varieties.

Male-flowering Papaw.

Female-flowering Papaw, producing in different varieties.

Melon-shaped fruit.

Gourd shaped fruit.

Pear-shaped fruit.

Pyramidal fruit.

2. CARICA *Posoposa* (*Posoposa*) or Surinam intire-lobed Papaw. (*Leaves divided into many entire lobes*.)

Varieties.

Male and female-flowering; the female having pear-shaped fruit.

These singularly curious exotics deserve observation in all stove collections for the variety of their admirable foliage, and being of remarkable swift growth, soon attain a flowering and fruiting state, producing fruit as large as ordinary Melons, and are easily raised from seed in the spring, assisted by a hot-bed, or in the bark-bed of the stove.

CARYOPHYLLUS. CLOVE TREE. (*Polyandria monogynia*.)

A genus

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A genus consisting of but one species, a woody exotic of the Molucca Islands, famous for producing that fragrant aromatic spice, Clove, being the young unripe fruit of the tree, which is adorned with oval-lanceolate opposite leaves, and bunches of white flowers, having four-parted permanent cups, four obtuse petals, many stamina, and one style, succeeded by oblong baccaceous fruit, with one or two seeds.

The species is,

CARYOPHYLLUS aromaticus. Common aromatic Clove Tree.

It is rare in Europe, and the seeds difficult to be obtained, which may be vegetated by aid of a bark-bed, or cuttings may be planted in a pot plunged in the bark-bed, and covered with a glass.

CARYOTA. BIPINNATED PALM. (*Palmae bipinnatifoliae.*)

One species only constitutes this genus, rising with a simple stem without branches; adorned above with large frondose, doubly-winged leaves, and male and female flowers in different plants, disposed in panicles, or branching spadix, produced from a spathaceous general cup, each flower composed of three or six leathery petals, six stamina, oval germen, and one style, succeeded by oval baccaceous fruit in clusters.

The species is,

CARYOTA urens. Stinging Indian Palm. (*Frondose bi-pinnated leaves, with wedge-shaped folioles.*)

This differs from all the other kinds of Palms by its doubly-winged leaves, therefore affords a singular variety in assemblage, and is propagated by seed taken out of the fruit, sowed in pots, and plunged into a bark hot-bed.

CASSIA. WILD SENNA. (*Decandria monogynia.*)

A genus of Asiatic and American exotics, of which several tall and shrub kinds are retained in our hot-house collections for variety; the first of which assume a tree-like growth, thirty or forty feet high, in its native soil; the others are shrubby, from three or four, to six or eight feet, adorned mostly with winged leaves of many folioles, and pentapetalous yellow and other coloured flowers, some in clusters, others by two on each footstalk; some having

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having five-leaved cups, five roundish patent petals, ten stamina, taper germen and short style, succeeded by very long pods, with roundish seeds.

The noted species are,

1. *CASSIA Fistula* (*Fistula*.) Purging Tree Cassia of Alexandria. (Pinnated leaves of five pair of oval sharp-pointed smooth folioles, and pods two feet long.)

2. *CASSIA biflora*. Two-flowered American Shrub Cassia. (Pinnated leaves of six or seven pair of oblongish smooth lobes, and peduncles having each two flowers.)

3. *CASSIA ligustrina*. Privet-leaved Bahama Shrub Cassia. (Pinnated leaves, with seven pair of lanceolate lobes.)

4. *CASSIA bicapsular*. Bicapular Indian shrubby Cassia. (Pinnated leaves, having three pair of ob-ovate smooth lobes, and double capsuled pods.)

5. *CASSIA tenuissima*. Small podded Havannah Cassia. (Pinnated leaves, having nine pair of oblong folioles.)

6. *CASSIA emarginata*. Emarginated Caribbeean Cassia. (Pinnated leaves, having three pair of oval-roundish emarginated lobes.)

7. *CASSIA alata*. Winged-podded American Cassia. (Pinnated leaves, having eight pair of oval-oblong lobes, and winged pods.)

8. *CASSIA mimosoides*. Mimosa-like Ceylon Cassia. (Many paired linear leaves, and bristly stipulas.)

These plants effect an agreeable diversity in their pinnated foliage; produce abundance of flowers annually, succeeded by singular long pods, affording a pleasing variety, and are all easily produced from seed sowed in pots of light earth, and vegetated in a hot-bed.

CASSYTHA (*Cassytha*.) (*Enneandria monogynia*.)

Consists of but one species, a succulent, baccaferous perennial of Indian growth, rising with slender succulent stalks, branching out into a bushy head, and white flowers singly, having three-leaved cups, an oval corolla of three concave petals, nine stamina, oval germen, single style, and a globular pulpy berry, with many oval seeds.

The species is,

CASSYTHA filiformis. Threal-form, slender Indian Cassytha.

Retain it in pots of light sandy earth, and propagate it by cuttings in summer, planted in pots of dry soil and plunged in the bark-bed.

CATER-

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CATESBÆA. LILY THORN. (*Tetandria monogynia.*)

A genus furnishing but one species; an exotic shrub from the Island of Providence, in South America, rising with a spinous stem and branches, adorned with small oval-roundish leaves, and very long tubulous pendulent yellow flowers, singly; having a four-parted cup, a monopetalous funnel-shaped corolla, dividing above in four segments, four stamina, roundish germen, single style, and an oval unilocular berry, filled with angular seeds.

The species is,

CATESBÆA spinosa. Thorny Catesbæa, or Lily Thorn.

It is propagated by seeds and cuttings of the young shoots, in pots plunged in the bark-bed, &c.

CEDRELA. BARBADOES CEDAR. (*Pentandria monogynia.*)

One species, a tree of considerable altitude and bulk in its native soil, the West-India Islands, &c. furnished with very long pinnated leaves of near twenty pair of folioles, and monopetalous flowers in panicles; having bell-shaped quinque-dent-ed cups, a corolla of one petal, quinquefid at top; five stamina, roundish germen, crowned by a thick stigma, and succeeds to an oval quinquelocular, quinquevalvous pod, having in the centre a pentangular column, to which the seeds adhere.

The species is,

CEDRELA odorata. Odoriferous Barbadoes Cedar Tree. (*Flowers produced in panicles.*)

This demands culture in all capital collections, as it exhibits a distinguishable variety in its ample pinnated foliage, growing two or three feet in length, and is raised from seed obtained from abroad, sowed in pots, and forwarded in a hot-bed.

CELASTRUS (*Celastrus.*) **STAFF TREE.** (*Pentandria monogynia.*)

It furnishes one or two tender Æthiopian evergreen shrubs, retained both as green-house and stove plants, growing, the first sort with irregular stems and branches, three or four feet high, the second eight or ten feet; ornamented with spear-shaped and oval leaves, and cymose and racemous bunches of greenish flowers, having

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five-parted cups, five oval petals, five stamina, and one style, succeeded by a trilocular capsule, with oval seeds.

The species are,

1. *CELASTRUS pyracanthus*. Pyracantha-leaved Æthiopian Staff Tree. (*Cylindric branches, naked spines, and acute leaves.*)

2. *CELASTRUS myrtifolius*. Myrtle-leaved Jamaica Staff Tree. (*Erect, spineless stalk, egg-oval slightly-serrated leaves, and racemous clusters of flowers.*)

Both the sorts are easily propagated by seed and cuttings in a hot-bed; also by layers.—See *Celastrus* among the *Green-house Plants*.

CERBERA (*Cerbera*.) *AHOUI*. (*Pentandria monogynia*.)

A genus consisting of three Asiatic and South American trees, of eighteen or twenty feet growth, furnished with oval and spear-shaped and linear leaves, and funnel-shaped, cream-coloured and yellow flowers, terminating the branches in clusters; having five-leaved cups, a monopetalous funnel shaped corolla, dividing above in five large segments; five stamina, a roundish germen, with a short style, crowned by a headed stigma, succeeded in the germen by a large, roundish, fleshy, bilocular bacca, having two large nuts.

The species are,

1. *CERBERA Ahouai* (*Ahouai*.) Ovate-leaved Brazilian Ahouai. (*Ovate thick succulent leaves.*)

3. *CERBERA Manghas* (*Manghas*.) Lanceolate-leaved Indian Cerbera. (*Long spear-shaped succulent leaves, having transverse nerves.*)

3. *CERBERA Thevetia* (*Thevetia*.) Linear-leaved American Cerbera. (*Long linear leaves, growing in clusters.*)

These are lactescent plants, abounding with a milky juice; retain their leaves, and flower ornamentally in summer, so afford a conspicuous variety, and are raised from seeds procured from abroad, sowed in pots plunged in the bark-bed, and from occasional root suckers, and may be tried also by cuttings and layers.

CESTRUM. BASTARD JASMINE, or JASMONOIDES. (*Pentandria monogynia*.)

This genus comprehends three elegant shrubby evergreens of six or eight feet growth, decorated with large, oblongish,

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oblongish, and elliptic, thick, smooth leaves, and long tubulous, greenish-yellow and whitish flowers in clusters; having short quinque-dentate cups, a monopetalous, long, tubular, funnel-shaped corolla, spreading at top in five segments; five stamina, an oval cylindric germen with one style, and the germen succeeding to an oval, unilocular berry, having roundish seeds.

The species are,

1. *CESTRUM diurnum*. Day-smelling Chillian Cestrum. (*Flowers sitting close, not having peduncles or footstalks.*)
2. *CESTRUM vespertinum*. Evening-smelling Cestrum. (*Flowers somewhat spiked lateral, and elliptic leaves.*)
3. *CESTRUM nocturnum*. Night-smelling Jamaica Cestrum. (*Flowers growing on footstalks.*)

These are handsome evergreens, and remarkable, the first for imparting a strong odour in the day, and the second and third for diffusing a singular fragrance in the evening and night; and are all easily raised from seed, and by cuttings of the young side shoots in spring and summer, in pots plunged into the bark-bed, or the stove, &c.

CHAMÆROPS. DWARF PALM, or PALMETTO. (*Palmae flabellifolia.*) (*Polygamia dioecia.*)

A genus furnishing but one species, a curious perennial of the Palm tribe, not rising with any stem, like most of the other Palms, but the frondose petioles or footstalks of the leaves rising immediately from the root, elevating at top very large palmated flabelliforme, or fan-shaped leaves, dividing at top like the fingers of a hand; and between the leaves arise the spatha, protruding a branching spadix of many separate flowers, male and hermaphrodite, on two distinct plants, having each a small triphyllous cup, a monopetalous, thick erect corolla, divided into three reflexed segments, six stamina, three roundish germina, with three styles, and the germina become three round unilocular berries, having each a single seed.

The species is,

CHAMÆROPS humilis. Dwarf South-European Palm, or Palmetto. (*Fronde palmated, folding or plaited leaves, and thorny footstalks.*)

This singular plant should never be omitted in eminent collections; and is propagated by seed in a hot-bed,

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and sometimes by slips or off-sets, afforded from the head of the root.

CHRYSOBALANUS. COCOA PLUM. (*Icosandria monogynia*.)

A large American shrub from the West-Indies, of eight or ten feet growth, adorned with oval stiff leaves, and loose bunches of small white flowers, having bell-shaped cups, five oblong spreading petals, twenty or more stamina, an oval germen, slender style, and the germen becomes a large oval fleshy unilocular berry, including an oval five-furrowed nut.

The species is,

CHRYSOBALANUS *Ikaco* (*Ikaco*.) Cocoa Plum Tree. (*Roundish, sub-marginated leaves, and flowers growing in paniced clusters.*)

Varieties.

Blue-fruited.

Black-fruited.

Purple-fruited.

Orbiculated-leaved.

It is retained here in our stoves for variety, and is raised from the nuts or stones of the fruit, in a hot-bed.

CHRYSOPHYLLUM. STAR APPLE. (*Pentandria monogynia*.)

A genus composed of two ornamental evergreen trees from South America, where they grow from twenty to thirty, or forty feet high; retained here in large collections, for the beauty of their golden and shining leaves, which are ovate, and spear-shaped in the different species, and pentapetalous flowers in lateral and terminal clusters; having five-leaved cups, five spreading bifid petals, five stamina, an oval germen, with a short style, and the germen becomes a large oval, apple-like, purple fruit, including several flat hard seeds.

The species are,

1. CHRYSOPHYLLUM *Cainito* (*Cainito*.) Downy Golden-leaved Star Apple. (*Ovate leaves, having parallel stripes; downy, and of a gold shining colour underneath.*)

2. CHRYSOPHYLLUM *glabrum*. Smooth-leaved Star Apple, or Mexican Medlar. (*Spear-shaped leaves, smooth on both sides.*)

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Both the species are propagated by seeds obtained from the West-Indies, sowing them in pots of light rich earth, and plunged into a bark-bed; in which also cuttings of the shoots will probably strike.

CITHAREXYLON. FIDDLE WOOD, or rather FIDELLE WOOD. (*Didynamia angiospermia.*)

Two eminent evergreen trees, natives of the West-India Islands, &c. entertained here as ornamental evergreens in our stove collections; garnished with large oval, and oblong opposite leaves, and white flowers, in spikes at the ends of the branches; composed of a monophyllous, campanulate, quinquedentate cup, a funnel-shaped corolla, dividing above in five spreading parts, two long and two short stamina, roundish germen and single style, succeeded by roundish, two seeded berries, in clusters.

The species are,

1. **CITHAREXYLON cinereum.** Ash-coloured American Citharexylon. (*Cylindrical branches, oblong ovate leaves, and indented cups.*)

2. **CITHAREXYLON caudatum.** Tailed, long-spiked Jamaica Citharexylon. (*Cylindrical branches, ob-oval leaves, and truncated cups.*)

They make a handsome appearance in the stove collection, and are raised here from seed received from America; also by cuttings, assisting both methods in a hot-bed, or in the bark-bed, in the stove.

CLUSIA. BALSAM TREE. (*Polygamia monoecia.*)

A genus comprehending several tree and shrub kinds, introduced here from the West-Indies, and other hot parts of America, for the singular beauty of their ample foliage, flowers, &c. having large round, thick succulent, and oval-spear-shaped leaves; some smooth, others veined, and large hexapetalous yellow, red, and rose-coloured flowers, composed of an imbricated cup, with roundish concave leaves, a corolla of from four to five or six large roundish spreading petals, many stamina, oval germen, crowned by a starry stigma, and succeeded by an oval sex-locular capsule, opening in six valves, spreading open in a star-like form, with angular seeds affixed to a column.

The species are,

1. **CLUSIA flava.** Pale-yellow tetrapetalous Jamaica Balsam Tree. (*Roundish succulent leaves without veins, and a tetrapetalous corolla.*)

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2. **CLUSIA**

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2. *CLUSIA alba*. White, pentapetalous flowered American Clusia. (*Roundish leaves without veins, and a pentapetalous corolla.*)

3. *CLUSIA rosea*. Rose-flowered hexapetalous Carolinian Clusia. (*Roundish leaves, without veins, and a hexapetalous corolla.*)

4. *CLUSIA venosa*. Veined-leaved American Clusia. (*Oval-lanceolate leaves, having many small veins.*)

These plants are ornamental, and effect an agreeable contrast in collections; and are propagated either by cuttings, &c. of the young shoots, or by seeds from their native country, and assisted by a hot-bed.

COCOLOBA. SEA-SIDE GRAPE. (*Ocandria trigynia.*)

A genus of sea-side, shrubby plants, growing in the West-Indies, six or seven feet high, ornamented with large roundish, heart-shaped, orbicular, and oval and oblong leaves, from three or four, to six or eight inches long, and grape-like bunches of flowers; having monophyllous five-parted cups, no corolla; eight subulate filaments, an oval trigonous germen, with three styles; no pericarpium, but the permanent cup contains an oval nut, with a single seed.

The species are,

1. *COCOLOBA Uvifera* (*Uvifera.*) Grape-bearing Coccoloba, or Common Sea-side Grape. (*Roundish-cordate shining leaves.*)

2. *COCOLOBA pubescens.*) Downy-leaved Coccoloba: (*Large orbicular downy-leaves.*)

3. *COCOLOBA punctata*. Punctured, or dotted Coccoloba. (*Lanceolate ovate leaves, and dotted fruit.*)

4. *COCOLOBA excoriata*. Excoriated-branched Coccoloba. (*Branches casting their bark, and ovate leaves.*)

5. *COCOLOBA tenuifolia*. Small-leaved Coccoloba. (*Ovate membranous leaves.*)

These plants are ornamental in their large evergreen foliage, exhibiting an admired variety in the stove; and are propagated by seeds from abroad, vegetated in a hot-bed; try also cuttings and layers.

COCOS. COCOA-NUT TREE. (*Palma pennatifolia.*) (*Monoecia hexandria.*)

A genus comprehending but one species, an Indian tree of the Palm kind, growing with an upright single branchless

branchless stem, fifty or sixty feet high, decorated upward with large branch-like pinnated leaves, many feet long; and at top of the stem, large spadiceous bunches of flowers, male and female, protruded from a general spathaceous cup, each flower of the spadix composed of three petals; six stamina in the males, and in the females an oval germen, crowned by a trilobate stigma, succeeded by a very large roundish-oblong-trigonus, leathery, fibrose, drupaceous fruit, or cover, inclosing a large, oval, hard nut, furnished with a white sweet kernel, and a quantity of milky liquor, palatable, and wholesome to eat.

The species is,

Cocos nucifera. Nut-bearing Cocos, or Cocoa Nut-Tree. (*Very large frondose pinnated leaves, composed of many sword-shaped replicated folioles*.)

This curious tree deserves admittance in all stove collections, for the singularity of its immense branch-like leaves; and is raised of the nuts, which we receive plentifully every year from the West-Indies, taking them out of their leathery cover, and planted sideways in pots of rich earth, plunged over their rims, in the bark-bed of the stove.

COFFEA. COFFEE TREE. (*Pentandria monogynia*.)

An admired ornamental evergreen, of the shrub kind, a native of Arabia and Æthiopia, growing eight or ten feet high, branching regularly by opposite pairs; adorned with large, beautiful, oblong, opposite shining leaves, and flowers in close-fitting clusters along the sides of the branches; having small four parted cups, a funnel-shaped corolla, quinquesid at top; five filaments, a roundish germen, single style, and the germen becomes an oval berry, having two seeds.

There are two species, viz.

1. *COFFEA arabica*. Common Arabian Coffee Tree. (*Flowers quinquesid, or five-parted at top, and berries with two seeds.*)

2. *COFFEA occidentalis*. Occidental, or American Coffee Tree. (*Flowers quadrifid or four-parted at top, and berries having but one seed.*)

They are most elegant shrubs, displaying a very ornamental appearance in their fine evergreen leaves; but the *Coffea arabica* particularly, is the celebrated Coffee Tree

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that furnishes the berries of which Coffee is made, and is the most noted sort in our gardens, being retained for variety and ornament in hot-houses, where it flowers annually, and produces ripe berries, both fit for sowing, and to dry and roast for making Coffee; not, however, in sufficient quantity for general use, only by way of curiosity.

It is propagated by sowing the berries, as soon as possible, after they are ripe, otherwise they are apt to lose their vegetative faculty, sowing them in pots of rich garden earth, and plunged into a bark hot-bed in the stove, &c.

May likewise try their propagation by cuttings and layers, assisted by the heat of the bark-bed.

COMMELINA. (*Commelina.*) (*Triandria monogynia.*)

A genus of herbaceous exotics, natives of Africa and America; some of which, from the hot parts, are entertained in our hot-house and green-house collections for variety, rising mostly with decumbent, creeping, and declinated stalks, two or three feet long; garnished with lanceolate, and oval leaves, some embracing the stalk, others not, and yellow and blue flowers, produced from a large heart-shaped, permanent spatha, having each a three or four-leaved cup, two or three large roundish petals, three stamina, a roundish germen, twisted style, and the germen becomes a globular, trilocular capsule, with six angular seeds.

The species are,

1. COMMELINA *africana*. African yellow Commelina. (*Decumbent stalk, lanceolate smooth leaves, and unequal corolla*.)

2. COMMELINA *tuberosa*. Tuberous-rooted Mexican Commelina. (*Ovate spear-shaped, sub-ciliated, sessile leaves, and equal corolla.*)

3. COMMELINA *benghalensis*. Bengal creeping Commelina. (*Creeping-rooting stalks, ovate-obtuse leaves, and unequal corolla.*)

4 COMMELINA *Zanonia* (*Zanonia.*) Grassy-leaved American Commelina. (*Spear-shaped leaves, thick peduncles, and an equal corolla.*)

They

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They flower here in June, July, and August, sometimes succeeded by ripe seeds, by which they may be raised by the assistance of a hot-bed, and by occasional offsets, or slips of the roots, &c.

COPAIFERA. BALSAM OF CAPEVI TREE. (*Decandria monogynia.*)

It is a balsamiferous tree of Brasil and the Antilles of the West-Indies, retained here in some curious collections for variety; is garnished with pinnated leaves, and large rosaceous-shaped flowers having no cups, but five petals expanding open, ten stamina and one style, succeeded by a pod furnishing one or two seeds.

The species is,

COPAIFERA officinalis. Officinal or Common Balsam of Capevi Tree.

The trees of this sort in their native country afford by incision great quantities of officinal balsam, &c. used in medicine. It is propagated here by seeds procured from abroad, and vegetated by aid of a hot-bed; try also cuttings, &c.

CORDIA (*Cordia.*) SEBESTEN, or LIGNUM ALOES. (*Pentandria monogynia.*)

This genus comprehends several species of the shrub and tree kinds, natives of the West-Indies, Africa, &c. rising to the height of from eight or ten, to fifteen or twenty feet, according to the different species; ornamented with oblong and oval, and spear-shaped leaves, and large beautiful scarlet, and other coloured infundibulliform flowers at the termination and sides of the branches in clusters, &c. having monophyllous, tridented cups, a large monopetalous funnel-shaped corolla, cut in four, five, or six parts at top; five stamina, a roundish germen, and bifid style; succeeded by a globular berry, including a quadrilocular nut.

The species are,

1. **CORDIA Sebestena** (*Sebestena.*) Rough Sebesten, or Indian Scarlet Cordia. (*Oblong-ovate, bowed, rough leaves, and large terminal clusters of very ornamental scarlet flowers.*)

2. **CORDIA Myxa** (*Myxa.*) Cultivated Downy Egyptian Sebesten, or Assyrian Plum. (*Ovate woolly leaves, and flowers growing in lateral corymbus bunches.*)

3. **CORDIA**

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3. *CORDIA macrophylla*. Long-leaved Jamaica Cordia. (*Ovate hairy leaves a foot and half long.*)

4. *CORDIA Collococca* (*Collococca*.) Entire-leaved Jamaica Cordia. (*Heart-oblong-ovate entire leaves, and flowers growing almost in a corymbus.*)

5. *CORDIA Geraschanthus* (*Geraschanthus*.) Paniculated Jamaica Cordia. (*Lanceolate-oval, rough leaves, and terminal panicles of flowers.*)

They are introduced in our hot-house collections to increase the variety, but more generally the *Cordia Sebestena*, for the exceeding beauty of its large clusters of rich scarlet flowers; and are propagated by seed obtained from the West-Indies, &c. sowed in spring in pots, and plunged into a hot-bed, or bark bed, in the stove, &c.

CORNUTIA (*Cornutia*.) (*Didynamia angiospermia*.)

A genus furnishing but one species, an ornamental flowering shrub from the Caribbees, and other West-India Islands; grows ten feet high, furnished with hoary opposite leaves, and elegant blue flowers in terminal spikes; having tubular quinque-dentate cups, a monopetalous tubulous corolla, divided into four unequal segments, two long and two short stamina, a roundish germen, long style; and the germen succeeds to a globular berry, with kidney-shaped seeds. The species is,

CORNUTIA pyramidata. Pyramidal-flowered Cornutia. (*Hoary leaves, and pyramidal flowers.*)

This plant flowers very ornamentally six or eight weeks in autumn; and is propagated by seeds and cuttings, assisted by the artificial heat of a bark-bed, &c.

CORYPHA. ROYAL UMBRELLA PALM. (*Palma flabellifolia*.)

A genus of the Palm Tree kind, furnishing only one species, growing to a vast altitude, having very large branch-like, pinnated-palmated, folded, fan-shaped leaves, spreading twelve or fourteen feet around, and male and female flowers in very long loose bunches, produced from a spatha or sheath, each flower having a three-leaved cup, three petals, six stamina in the males, and in the females an oval germen, single style, succeeded by small roundish fruit. The species is,

CORYPHA umbraculifera. Umbrella Indian Palm. (*Friendse, or branch-like, pinnated-palmated, folded leaves.*)

This

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This elegant Palm claims particular notice, for the singularity of its vast foliage; and is propagated by the seeds, procured from the West-Indies; and when obtained, sowed in pots of rich earth, and plunged into the bark-bed in the stove, &c.

COSTUS (*Costus*.) **WILD GINGER.** (*Monandria monogynia*.)

An herbaceous perennial from the Indies, of the spadicaceous kind, having a fleshy, jointed root, sending up roundish herbaceous stalks, half a yard or two feet high, garnished with oblong amplexicaul leaves, and terminated by a clubbed spadix of flowers, protruded from a spathe or sheath; each floret having a three-parted cup, three concave petals, one stamina, and one style; succeeded in the germen by a trilocular capsule with angular seeds.

The species is,

COSTUS arabica. Arabian Costus, or Wild Ginger.

It is admitted into our collections of stove exotics, to increase the variety; and is propagated by slipping or dividing the roots in the spring.

COTYLEDON (*Cotyledon*.) **NAVEL-WORT.** (*Decandria pentagynia*.)

A genus of succulent plants, furnishing three tender African species for the stove; rising with succulent jointed perennial stalks, a foot or more high; garnished with thick, succulent leaves, and golden yellow flowers terminating the branches in bunches; having five-parted cups, a bell-shaped, four or five-parted corolla, ten stamina, five germina and styles, succeeding to five oblong, ventricose, unilocular capsules, with many small seeds.

The species are,

1. **COTYLEDON laciniata.** Laciniated or cut-leaved Egyptian Cotyledon. (*Trifid, deeply cut leaves, and quadrifid flowers*.)

2. **COTYLEDON hemisphærica.** Half-globular leaved Ethiopian Cotyledon.

3. **COTYLEDON spuria.** Spurious long-leaved Cape Navel-wort.

They are evergreen, effect an agreeable variety at all seasons, and flower ornamentally, and are propagated by cuttings in summer, forwarded in a hot-bed; keeping them

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them always in pots of dry sandy compost, as other succulents.

CRASSULA (*Crassula*,) LESSER ORPINE. (*Pentandria pentagynia*.)

Consists of succulent, thick-leaved evergreen exotics, of African growth; which, although they will succeed in the green-house, some of the tender kinds are occasionally retained in the stove collection; rising with succulent perennial stalks, from one or two, to three, four, or five feet high, or more; ornamented with very thick oval, and spear-shaped, fleshy, succulent opposite leaves, and pentapetalous white and scarlet flowers at the top of the branches, in clusters and spikes, having pentaphyllous cups, five long narrow spreading petals, five stamina, and five germina and styles, succeeded by five oblong, many-seeded capsules.

The species occasionally retained in stoves, are,

1. CRASSULA *punctata*. Punctated-leaved Crassula. (*Round, low, simple stalks, and ovate dotted, ciliated opposite leaves.*)

2. CRASSULA *portulacaria*. Purslane-leaved Tree Crassula. (*Tree-like stalk, and ob-oval opposite leaves.*)

3. CRASSULA *perfoliata*. Perfoliate-leaved Crassula. (*Lanceolate-subulate, sessile leaves, convex below, connate at the base, and perforated by the stalk.*)

4. CRASSULA *tetragona*. Four-squared Crassula. (*Subulate, obscurely-four-square leaves.*)

5. CRASSULA *coccinea*. Scarlet-flowering Crassula. (*Plane, ovate, cartilaginous-ciliated-edged leaves, their base embracing the stalks.*)

6. CRASSULA *cultrata*. Knife-leaved Crassula. (*Ovate, most entire, somewhat knived, oblique, opposite leaves.*)

These species, although they will also succeed among the green-house exotics, yet are often introduced in the stove assemblage; in both of which repositories they exhibit a curious variety, and flower annually, which in the *Crassula coccinea*, particularly, is very ornamental, and are all easily propagated by cuttings of the branches in spring and summer.—See *Crassula*, among the *Green-House Plants*.

CRATÆVA. GARLICK PEAR. (*Dodecandria monogynia*.)

A genus of Indian tree kinds, singular for producing large garlick-tasted fruit, and retained here in large stoves,

stoves, to increase the assemblage of curious exotics; grow thirty or forty feet high in their native country; adorned with trifoliate leaves, composed of oval, and oblong, entire, and serrated folioles; and tetrapetalous flowers, having four-parted spreading cups, four oval petals, twelve or more stamina, a gynandrious germen, crowned by the stigma; and succeeds to a large globular, fleshy, uniocular fruit, with reniform seeds.

The species are,

1. *CRATÆVA gynandra*. Gynandrious Jamaica Cratæva. (*Smooth branches, trifoliate entire leaves, and gynandrious flowers.*)

2. *CRATÆVA Tapia* (*Tapia.*) Common Indian Garlic Pear. (*Smooth branches, and trifoliate entire leaves, having the lateral folioles oblique and shortest.*)

3. *CRATÆVA Marmelos* (*Marmelos.*) Spinose Indian Cratæva. (*Thorny branches, and trifoliate serrated leaves.*)

In the Indies these trees produce fruit as large as oranges, sometimes eaten by the natives; a plant or two of each is preserved here in stoves for variety; and are propagated by seed in a hot-bed in the spring, and by layers and cuttings.

CRESCENTIA. CALABASH TREE. (*Didymia angiospermia.*)

A singular Tree from the West-Indies, &c. where it produces enormous fruit, sometimes as large as a man's head, the shell of which is employed for various domestic utensils, being of different shapes and magnitudes, in the several varieties of this tree, which grow from fifteen to twenty or thirty feet high, branching above into regular heads; adorned with large oblong entire leaves, and tubular yellow flowers, having two-lobed cups, a monopetalous irregular corolla, with a long recurved tube, unequally quinquesid at the brim; two long and two short stamina, an oval pedicellated germen, with slender style, and the germen succeeding to a large oval, round, or bottle-shaped fruit of different magnitudes, from the size of an orange, to that of a man's head, or larger, consisting of a hard thin shell, filled with an unfavoury sour pulp, and many flat seeds, which being scopped out, the shell of some of the largest is capable of holding six or eight pints of water, and are used by the West-Indians for liquor and eating utensils.

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The species is,
CRESCENTIA *Cujete* (*Cujete.*) Jamaica Calabash Tree.

Varieties.

Long spear shaped leaved.

Broad oval-leaved Calabash Tree.

Oval fruited.

Round fruited.

Bottle-shaped fruited.

These curious trees deserve culture in all capital collections; they exhibit an ornamental variety in their foliage, and are easily raised from seed procured from the West-Indies in their shells, thence taken out, sowed in pots of rich earth, and forwarded in a hot-bed.

CRINUM. LILY ASPHODEL. (*Hexandria monogynia.*)

A genus furnishing four tender species of herbaceous, tuberous, and bulbous rooted, very ornamental flowery perennials of the liliaceous tribe, natives of Africa, Asia, and America, rising with long spear-shaped, oval, and keel-shaped leaves, and upright, round, hollow, annual stalks, two or three feet high, terminated at top by large umbellate clusters of beautiful blue and white, liliaceous, odoriferous flowers, having a diphyllous spatheous-like involucre, a funnel-shaped tubulous corolla, divided into six spear-shaped segments, six long stamina, with incumbent anthera, a germen elevating a long style, crowned by a trifid stigma, and the germen becomes an oval, trilocular capsule, with one or two seeds in each loculi, and sometimes small bulbs.

The species are,

1. CRINUM *africanum*. African Blue Lily Asphodel. (*Almost spear-shaped, plane leaves, and fine blue flowers, with an obtuse corolla.*)

2. CRINUM *asiaticum*. Asiatic Bulbiferous Lily Asphodel. (*Cavinate or keel-shaped leaves and white flowers, succeeded by capsules bearing bulbs.*)

Variety.

Striped flowered.

3. CRINUM *americanum*. American Evergreen Lily Asphodel. (*Plane leaves, and white flowers, having the top inflexed inward like a claw.*)

Variety.

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Variety.

Striped flowered.

4. *CRINUM latifolium*. Broad-leaved Asiatic Crinum. (*Broad egg-oval-lanceolate, plane, sharp-pointed, sessile leaves, and white, purple striped flowers.*)

These plants flower very ornamentally at different seasons of the year, but principally in autumn, and often continue till spring, in different plants; very beautiful, and of great fragrance.

Let roots be procured for planting, when the flower-stalks, &c. are decayed, and planted in pots of rich light earth; and they are propagated by off-sets, emitted plentifully from the main roots, taken off, and planted when the flowering is past; they may also be raised from the small bulbs produced on the stalk.

CROTALARIA (Crotalaria.) (Diadelphia decandria.)

Of this genus we have some shrubby and herbaceous exotics from Africa and Asia in our stoves for variety; growing from three to four or five feet high, ornamented with oval, heart-shaped, and lanceolate, ternate, and simple leaves, and papilionaceous yellow flowers in spikes and clusters; having cups cut into three large unequal segments, a corolla consisting of a large heart-shaped standard, two smaller oval wings, and a pointed keel; ten diadelphous stamens, an oblong germen, single style, and a short unilocular pod, with reniforme seeds.

There are many species, annual, perennial, and shrubby; the most noted are,

1. *CROTALARIA laburnifolia*. Laburnum-leaved shrubby Asiatic Crotalaria. (*Ternate egg-oval, pointed leaves, without stipula.*)

2. *CROTALARIA chinensis*. Chinese shrubby Crotalaria. (*Simple egg-oval leaves, with minute stipula.*)

3. *CROTALARIA latifolia*. Broad-leaved Jamaica Crotalaria. (*Ternate broad ob-ovate leaves, and lateral flowers, almost in clusters.*)

4. *CROTALARIA perfoliata*. Perfoliate Carolina Crotalaria. (*Heart-shaped-ovate leaves, perforated by the stalk.*)

5. *CROTALARIA imbricata*. Imbricated shrubby Crotalaria of the Cape. (*Simple, egg-oval, acute, villose, sessile leaves, and close-fitting flowers.*)

6. CRO-

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6. *CROTALARIA amplexicaulis*. Amplexicaul shrubby Æthiopian *Crotalaria*. (Heart-shaped alternate leaves, amplexicaul, or embracing the stalk, and the floral ones reniform and opposite.)

Of these six species the *Crotalaria laburnifolia* is the most noted, which flowers very ornamentally in large yellow bunches in June and July; and which, together with the other shrubby kinds, are propagated by cuttings; likewise all the kinds by seed, brought forward in a hot-bed.

CROTON. TALLOW TREE, and BASTARD RICINUS. (*Monocia monadelphia.*)

Consists of some tender shrubby species, natives of the West-Indies, &c. furnished with oval oblong and lanceolate leaves, and male and female flowers apart in spikes, having five-leaved cups, five petals, many monadelphous stamens in the males, in the females a roundish trigonous germen, three styles, succeeded by trilobed trilocular capsules, with three seeds.

The most remarkable species for the stove are,

1. *CROTON glabellum*. Smooth Jamaica Croton. (Ovate-obtuse, smooth entire leaves, and fruit having peduncles.)

2. *CROTON Cascarilla* (*Cascarilla.*) Rosemary-leaved American Croton. (Tree stem, spear-shaped, long, narrow, acute, entire leaves, downy underneath.)

3. *CROTON lucidum*. Shining-leaved Jamaica Croton. (Oblong, slightly-sawed, smooth leaves, placed opposite.)

4. *CROTON humile*. Dwarf shrubby Jamaica Croton.

5. *CROTON Lacciferum* (*Lacciferum*) Indian Lacciferous Tree Croton. (Ovate, serrated, downy leaves, and woolly cups.)

They are mostly evergreen, and effect an agreeable variety in large stove collections; and are raised from seed procured from abroad, sowed here in pots, and forwarded in a hot-bed; try likewise cuttings and layers.

CURCUMA. TURMERIC. (*Monandria monogynia.*)

A genus comprising two herbaceous fleshy-rooted perennials, natives of India; rising with large spear-shaped, and ovalish nervose leaves a foot high, and between them the flowerstalk, about the same height, elevating a loose spike of reddish yellow flowers, having several spatheaceous, deciduous cups, a monopetalous, tubulous,

three-

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three-parted corolla, with a one-leaved nectarium, one stamina, a roundish germen, with one style; and the germen becomes a roundish trilocular capsule, furnishing round seeds.

The species are,

1. *CURCUMA longa*. Long rooted Indian Turmeric (*Spear shaped leaves, having numerous lateral nerves.*)

2. *CURCUMA rotunda*. Round-rooted Indian Turmeric. (*Spear-shaped oval leaves, having but a few lateral nerves.*)

Plant the roots in pots of rich earth, in spring or autumn, when devoid of leaves; at which time also they may be propagated by dividing the root off-sets.

CYCAS. SAGO PALM TREE. (*Palme pennatifolia.*)

A famous Palm Tree of Japan, and the mountainous parts of Malabar, and other parts of India, noted for furnishing from its pith the medical substance called Sago; grows with an upright, straight, branchless trunk above forty feet altitude, garnished above with frondose, or branch-like pinnated leaves, eight or ten feet long, in circles around the stem, having many long, linear, plane, opposite folioles; and from between the leaves large bunches of tripetalous flowers, succeeded by oval fruit, including a hard nut.

One species, viz.

CYCAS circinalis. Circulating-leaved Indian Sago Tree. (*Pinnated leaves in circles round the stem, composed each of many linear flat folioles.*)

This tree, as observed of the other Palm kinds, exhibiting a curious variety in their singular foliage, demand culture in our large stove collections, and is easily raised from seed taken out of the fruit obtained from the Indies, and sowed in pots of rich earth, plunged into a bark hot-bed.

CYNANCHUM. AMERICAN SCAMMONY. (*Pentandria digynia.*)

It furnishes for the stove two volubilate, climbing, shrubby, and herbaceous perennials of America, retained in some curious collections for variety; rising with twining stalks many feet high, furnished with a fungous cork-like, cracked bark, oval and heart-shaped leaves, and starry yellowish and greenish purple flowers in bunches; having

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having quinquefid cups, a monopetalous, five-parted, spreading corolla, five stamina, and two styles, and oblong pods, filled with flat, imbricated downy seeds.

The species are,

1. *CYNANCHUM hirtum*. Rough Shrubby American Cynanchum. (*Shrubby, volubilate, climbing stalk, having a fungous cracking bark below, and ovate-heart-shaped leaves.*)

2. *CYNANCHUM suberosum*. Cork-barked Carolinian Cynanchum. (*A volubilate climbing stalk, having a fungous opening bark below, and heart shaped pointed leaves.*)

3. *CYNANCHUM viminale*. Oser-twigged Cynanchum. They are easily propagated by layers of the young shoots in summer, also by cuttings, assisted by a hot-bed.

CYTISUS (*Cytisus*.) BASE TREFOIL. (*Diadelphus decandria*.)

For the stove collection is one shrubby American exotic, branching erectly six or eight feet high; adorned with erect trifoliate leaves, and papilionaceous yellow flowers in clusters; having bell-shaped, bilabiated cups, a corolla composed of an oval vexillum, two obtuse wings, and beelied acute keel; ten stamina, one style, and an oblong crooked acute pod, with roundish kidney seeds, valuable for feeding pigeons in America.

The species is,

CYTISUS Cajan (*Cajan*.) Indian Cytisus, or American Pigeon-Pea. (*Trifoliate leaves, with lanceolate folioles, the middle one longest, footstalked, and erect axillary racemes of flowers.*)

It is of quick growth, flowers ornamentally in summer, succeeded by ripe seeds, by which it may be easily raised in a hot bed.

D.

DELIMA. (*Polyandria monogynia*.)

A tender shrubby exotic of the island of Ceylon, growing with long shoots, and flowers having many stamina and one style.

The species is,

DELIMA sarmentosa. Sarmentose or Twiggy Ceylon Delima.

Propagated

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Propagate it by layers and cuttings, assisted by the bark-bed heat.

DIOSCOREA (*Dioscorea*.) (*Diocia hexandria*.)

A genus of herbaceous exotics of Asia and America, some of which are retained here in stove collections for variety, growing mostly with slender trailing and climbing stalks; garnished with heart-shaped, alternate, and opposite leaves, and male and female apetalous flowers on distinct plants, in long spikes or bunches; having bell-shaped, six-parted cups, no petals, six male stamina, and in the females a three-cornered germen elevating three styles, succeeded by a triangular, trilocular capsule, having in each loculi two seeds.

The most popular species are,

1. DIOSCOREA *bulbifera*. Bulb-bearing Indian Dioscorea, or Jamaica Yam, or Yamms. (*Smooth bulb-bearing stalks, and heart-shaped leaves*.)
2. DIOSCOREA *fatiwa*. Cultivated, Black Briony-leaved Indian Dioscorea. (*Smooth round stalks, and heart-shaped alternate leaves*.)
3. DIOSCOREA *oppositifolia*. Opposite-leaved Dioscorea. (*Ovate, acuminate, opposite leaves*.)
4. DIOSCOREA *pentaphylla*. Five-leaved, digitated Dioscorea. (*Digitated or fingered leaves*.)

They are sometimes introduced here among our stove-exotics, for variety and observation; and are propagated by layers and cuttings of the shoots, cuttings and offsets of the root, and by seed, in a hot bed.

The first species, *Dioscorea bulbifera*, is of considerable value in the West-Indies for its large fleshy root, called Yam, the principal food of the Negroes, weighing from two or three, to twenty pounds, resembling Potatoes in its mealiness, and when boiled or roasted, afford very nourishing food, often preferred to bread by the inhabitants of the above countries, where it is propagated in vast abundance by cutting the root into pieces, having an eye to each cutting, as in planting Potatoes, &c.

DRACÆNA. DRAGON TREE. (*Hexandria monogynia*.)

Comprises tree-like kinds, and herbaceous perennials, of India, &c. adorned with long, spear, and sword-shaped leaves, and six-parted erect flowers, having six stamina

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stamina and one style, succeeded by a trilocular berry, with one seed in each loculi.

The species are,

1. *DRACÆNA Draco* (*Draco*) or True India Dragon Tree. (*Tree-like stem, long, somewhat-fleshy leaves, thorny at top.*)—See *Asparagus* (page 168) where this species is inserted by mistake.

2. *DRACÆNA ferrea*. Iron Dragon Tree of China. (*Tree-like stem, lanceolate acute leaves.*)

3. *DRACÆNA ensifolia*. Sword-leaved herbaceous *Dracæna*. (*Herbaceous stem-growing, sword-form leaves.*)

4. *DRACÆNA terminalis*. Terminal herbaceous *Dracæna*. (*Herbaceous stem-growing, and spear-shaped leaves.*)

5. *DRACÆNA graminifolia*. Grassy-leaved, stalkless, herbaceous *Dracæna*.

They are propagated by seed obtained from abroad, sowed in pots, and plunged in the bark-bed of the stove; also occasionally by suckers, and side off-sets, &c.

DRACONTIUM. DRAGON. (*Gynandria polyandria.*)

Consists of shrubby and herbaceous perennials, some climbing, others not; garnished with oblong arrow-shaped, and multifid leaves, and spadiceous flowers, consisting of an oblong spathaceous cup, protruding the pistil or spadix, set with many florets, having five oval petals, many gynandrious stamina, an oval germen, cylindric style, crowned by a triangular stigma, succeeded in the germen by roundish berries, with several seeds.

The species are,

1. *DRACONTIUM pertusum*. Perforated-leaved climbing American Dragon. (*Climbing stalks, large oblong leaves, perforated into many holes.*)

2. *DRACONTIUM spinosum*. Thorny Ceylon *Dracontium*. (*Arrow-shaped leaves, and prickly peduncles of flowers.*)

3. *DRACONTIUM polyphyllum*. Many-leaved Surinam Dragon. (*A short stalk, lacerated radical petioles, supporting many-parted leaves, having tripartite, pinnatifid folioles.*)

These plants afford an agreeable variety in the stove, where the climbing sorts may be propagated by cuttings and layers; and the others by off-sets of their roots.

DURANTA (*Duranta*) *Didynamia argispemia*.)

Consists

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Consists of two shrubby American plants, one a trailer, the other erect, growing six or eight feet high; garnished with oblong and ovate leaves, and tubular, reddish and blue flowers in long bunches, having monophyllous quinquefid cups, a monopetalous, long, tubulous, ringent, bilabiated corolla; two long, and two shorter stamina, a roundish germen under the corolla, with one style, succeeded by globular, bilocular berries, having several seeds.

The species are,

1. *DURANTA plumieri*. Plumiers trailing American Duranta. (*Calyxed, shrubbyish, contorted, spinose, and oblong serrated alternate leaves.*)

Variety.

Thornless trailing Duranta.

2. *DURANTA Ellisia* (*Ellisia.*) or Upright Jamaica Duranta. (*Calyxed, shrubbyish, erect, prickly, and ovate entire, alternate leaves.*)

They are propagated by cuttings and seeds, planted and sowed in pots, and plunged into a hot-bed, or the bark-bed in the stove.

E.

EHRETIA (*Ehretia.*) (*Pentandria monogynia.*) A genus comprehending four tender shrub kinds, from the West-Indies, of upright growth, adorned with large elegant oblong-oval, and wedge-shaped lanceolate leaves, in some sorts from five or six, to eight or nine inches long, by one third as broad, and white flowers growing in panicles and corymbus clusters, having a bell-shaped, five-pointed cup, a monopetalous tubulous corolla, cut into five segments; five stamina, a roundish germen, single style, and the germen succeeds to a round bilocular berry, with angular seeds.

The species are,

1. *EHRETIA tinifolia*. Tinus-leaved Jamaica Ehretia. (*Large oblong-ovate, smooth, intire leaves, and flowers growing in panicles.*)

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2. *EHRETIA Bourreria* (*Bourreria*.) Ovate-leaved Jamaica Ehretia. (*Large ovate, intire, smooth leaves, and flowers growing almost in a corymbus.*)

3. *EHRETIA exsucca*. Juiceless-fruited, wedge-leaved American Ehretia. (*Wedge-shaped-lanceolate leaves, with reflexed margins.*)

4. *EHRETIA spinosa*. Thorny American Ehretia.

The first two species are the most noted in the English gardens, but the first sort most of all; admired for their singular exhuberant foliage, exhibiting a conspicuous variety, and are raised from seeds procured from abroad, and by layers and cuttings, assisted by the heat of the bark-bed, &c.

ELÆOCARPUS (*Elæocarpus*.) (*Polyandria monogynia*.)

A shrubby Indian exotic, adorned with oblong shining leaves, and flowers produced in spikes, having a five-leaved calyx, five petals, numerous stamina, and no style.

The species is,

ELÆOCARPUS serrata. Sawed-leaved Indian *Elæocarpus*. (*Leaves oblong, sawed, alternate.*)

It may be raised from seed, layers, and cuttings, vegetated by the assistance of a hot-bed.

ELEPHANTOPUS. ELEPHANT'S FOOT. (*Syngethesia polygamia segregata*.)

A genus composed of two herbaceous perennials of India and America, rising with many oblong and oval leaves immediately from the roots, and erect stalks a foot or more high, terminated by compound purple flowers in heads; having a four-leaved involucre, containing many hermaphrodite florets, each having a partial cup; the florets tubulous and five-parted, five stamina and one style, succeeded by a compressed single seed.

The species are,

1. *ELEPHANTOPUS scabra*. Rough leaved Indian Elephantopus. (*Oblong rough leaves.*)

2. *ELEPHANTOPUS tomentosa*. Downy-leaved American Elephantopus. (*Egg-oval downy leaves.*)

They are perennial in root, particularly the first, sending up new stalks annually, which flower in July; and are propagated by seeds from abroad, sowed in a hot-bed, and by occasional root off-sets, cuttings of the stalks, &c.

ERY.

ERYTHRINA. CORAL TREE. (*Diadelphia decandria*.)

A genus of very ornamental flowering shrubs, and an herbaceous perennial, natives of India and America; growing from five or six, to eight or ten feet high in the shrub kinds, the other half a yard or two feet; adorned mostly with ternate leaves, and one with simple foliage, and beautiful papilionaceous flowers, terminating the branches in thick close scarlet spikes; having tubular, indented cups, a papilionaceous corolla of five petals, i. e. a spear shaped vexillum, two oval wings, and a dipetalous carina, ten diadelphous stamina, a pedicellated, subulate germen and style, the germen becomes a long swelling unilocular pod, with reniforme seeds.

The species are,

1. ERYTHRINA *Corallodendrum* (*Corallodendrum*) or Indian Coral Tree. (*Tree-like, prickly stem, trifoliate smooth leaves, heart shaped folioles, and most beautiful thick scarlet spikes of flowers.*)

Varieties.

(*occidentalis*.) Occidental Coral Tree.

(*orientalis*.) Oriental black-spined Coral Tree.

2. ERYTHRINA *picta*. Painted Indian Coral Tree. (*A tree-like prickly stalk, and trifoliate prickly leaves.*)

3. ERYTHRINA *platysliqua*. Plane-podded American Coral Tree. (*Oblong simple leaves, and plane seed-pods.*)

4. ERYTHRINA *herbacea*. Herbaceous Erythrina of Carolina. (*A low, simple, shrubby-annual stem, and ternate leaves.*)

All these exotics are remarkably beautiful when in flower, in their large elegant scarlet spikes, which renders them very desirable furniture for adorning the stove assemblage, in which they may be propagated by cuttings and layers in spring and summer, in pots plunged in the bark-bed; also by seeds procured from abroad.

EUGENIA (*Eugenia*.) (*Icosandria monogynia*.)

A genus of tree and shrub exotics of Indian growth, furnished with oblong-entire and crenated leaves, and large tetrapetalous flowers at the sides and ends of the branches in bunches and singly; composed of monophyllous quadrid cups, four oblong-obtuse petals, twenty or more stamina, a turbinated germen, supporting a single style,

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style, succeeded by a Peach-shaped, succulent, unilocular fruit, including a roundish nut.—The fruit eatable in the Indies.

The species are,

1. *EUGENIA malaccensis*. Malacca, eatable-fruited Indian Eugenia. (*Intire leaves, and branching flower-stalks at the sides and ends of the branches.*)

2. *EUGENIA (Jambos.)* Jambos, or Wild Indian Eugenia. (*Intire leaves, and branching flower-stalks terminating the branches.*)

3. *EUGENIA uniflora*. Uniflorous or one-flowered Indian Eugenia. (*Intire leaves, heart-spear-shaped, and lateral peduncles, having each but one flower.*)

4. *EUGENIA acutangula*. Acute-angular-fruited Indian Eugenia. (*Crenated leaves, terminal peduncles, and oblong, acute-angled fruit.*)

5. *EUGENIA racemosa*. Racemose-flowering Indian Eugenia. (*Crenated leaves, long racemous clusters of flowers, and egg-oval quadrangular fruit.*)

They are retained here in large stove collections for variety, and are produced from the stones of the fruit obtained from the Indies; likewise try layers and cuttings, &c. assisted by artificial heat.

EUPHORBIA (Euphorbia) or SPURGE, BURNING THORNY PLANT, &c. (*Dodecandria trigynia.*)

A genus comprehending a considerable family of succulent plants, assuming a curious singularity of growth; several of which, natives of the hot parts of Asia and America, &c. are eligible furniture for diversifying the stove collection; rising with angular, thick, succulent, shrubby, prickly, perennial stalks, from two, three, or four, to six or eight feet high, sending out many irregular succulent branches all around; in some sorts almost naked, or with only a few leaves at top; others foliated half way, some the whole length, and some quite naked, without any leaves at all, and small, whitish, yellowish, and scarlet flowers towards the ends of the branches, composed of a swelling quinquefid cup, four or five truncated thick petals, twelve to nineteen stamina, a roundish trigonal germen, and three styles, succeeded by a roundish unilocular capsule, with three seeds.

The most remarkable species for the stove are,

1. *EUPHORBIA antiquorum*. Triangular Indian Euphorbia

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phorbia of the Ancients. (*Triangular, jointed, prickly, almost-naked stalks, and spreading branches.*)

Variety.

(*trigonum.*) *Triangular Euphorbia, with erect branches.*

2. *EUPHORBIA canariensis.* Canary subquadrangular Spurge. (*Prickly, shrubby, subquadrangular, naked stalks, prickles in pairs.*)

3. *EUPHORBIA neriifolia.* Oleander-leaved Indian Euphorbia. (*Half-naked, angulated, prickly stalks, with obliquely tuberculated angles, and oblong leaves above.*)

4. *EUPHORBIA officinarum.* Officinal, mult-angular, Ethiopian Spurge (*Many-angled, prickly naked stalks, with the spines in pairs.*)

5. *EUPHORBIA cotinifolia.* Venice-Sumach-leaved Spurge, of Curassao. (*Shrubby stalk without spines, and heart-shaped, petiolated, emarginated, entire leaves.*)

6. *EUPHORBIA Tirucalli* (*Tirucalli.*) Indian shrubby Spurge. (*Shrubby, slender, erect, half naked, smooth stalks, and spreading branches, ending in crowded clusters.*)

7. *EUPHORBIA Tithymaloides* (*Tithymaloides.*) Tithymalus-shaped Euphorbia, or Bastard Spurge of Curassao. (*Shrubby stalk without spines, ovate succulent leaves, ranged two ways alternately, and scarlet flowers.*)

Varieties.

(*myrtifolia.*) *Myrtle-leaved Bastard Spurge.*

(*padifolia.*) *Bird-cherry leaved Bastard Spurge.*

8. *EUPHORBIA heptagona.* Seven angled Ethiopian Spurge. (*Seven angled, prickly, naked stalks, with single spines bearing flowers*)

9. *EUPHORBIA mammillaris.* Mammillary Ethiopian Spurge. (*Angled, prickly, naked stalks, with tuberos swelling angles, distinguished with thorns.*)

10. *EUPHORBIA ceriformis.* Cereus-formed Ethiopian Spurge. (*Slender, mult-angular, prickly, naked stalks, with single awl-shaped spines.*)

11. *EUPHORBIA mauritania.* Mauritanian Spurge. (*Unarmed, half-naked thready form weak stalks, leaves alternate*)

12. *EUPHORBIA heterophylla.* Different leaved South-American Spurge. (*Unarmed, and with leaves sawed, petioled, different formed, ovate-lanceolate, fiddle shaped.*)

For several other curious sorts of *Euphorbia*, see the Green-house collection, though several of the sorts here

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mentioned are also arranged among the Green-house exotics; which, in default of a stove, will also succeed tolerably all winter in a good Green-house.

All these plants being of a singular structure and appearance, exhibit a striking variety, and demand culture in all capital collections; keeping them in pots of dry rubbishy compost, being careful never to water them too abundantly, especially in winter, on account of their exceeding succulency; they abounding with a milky juice which is so extremely acrid, that it will blister the hands, and burn linen.

They are all easily propagated by cuttings taken off at the joints in May, June, or July, laying them on a shelf for a week or fortnight, to heal the succulent wound of the cut; then planted in pots of dry soil, and plunged in a hot-bed, or the bark-bed in the stove.

F.

FAGARA (*Fagara.*) (*Tetrandria monogynia.*)

Consists of three species of tree and shrub kinds from the hot parts of America and Japan; furnished with pinnated leaves of three or five oblong folioles, and flowers, having a four parted cup, four petals, four stamina, oval germen, and one style, succeeded by a globular bilobated capsule, with two seeds.

The species are,

1. FAGARA *Pterota* (*Pterota*) or Emarginated Jamaica Fagara. (*Pinnated leaves, with emarginated folioles.*)

2. FAGARA *Tragodes* (*Tragodes*) or Prickly-leaved American Fagara. (*Pinnated leaves, having spines at the joints underneath.*)

3. FAGARA *Piperita* (*Piperita*) Japanese Pepper, with crenated leaves. (*Pinnated leaves, having crenated folioles.*)

They are admitted into our stove collections for variety and observation; where they may be raised from seed, and by cuttings in the bark-bed.

FICUS. FIG TREE. (*Polygamia trioccia.*)

It furnishes several tree and shrub exotics of India and other hot countries, retained here in large stove collections for the variety of their beautiful ample foliage, which

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which in the different species are heart-shaped, oval, roundish, oblong, and spear-shaped, from three, four, or five, to eight or nine inches long; and male, female, and androgynous flowers on three distinct plants, consisting of numerous small chaffy florets, included within one general closed, persiscent calix like receptacle; no petals, three stamina in the males, one style in the females, succeeded by seeds contained in the general permanent cover, which becomes the fruit; not valuable for eating in these species.—See *Ficus* in the *Hardy Trees*.

The species are,

1. *Ficus religiosa*. Sacred Indian Fig Tree. (*Heart-shaped-oblong acuminate entire leaves.*)
2. *Ficus benghalensis*. Bengal Fig Tree. (*The lower branches emitting roots, and ovate-obtuse, entire leaves.*)
3. *Ficus Sycomorus* (*Sycomorus*) or Mulberry-leaved Egyptian Fig Tree. (*Heart-shaped roundish, entire leaves.*)
4. *Ficus indica*. Indian lanceolate-leaved Fig Tree. (*Rooting branches, lanceolate entire leaves, having foot-stalks.*)
5. *Ficus racemosa*. Clustered-fruited Indian Fig Tree. (*Tree-like stem, oval acute entire leaves, and growing in clusters.*)
6. *Ficus nymphaeifolia*. Water Lily-leaved Indian Fig Tree. (*Oval heart-shaped, smooth entire leaves.*)
7. *Ficus pumila*. Dwarf Chinese Fig Tree. (*Trailing-rooting stalk, and egg-oval acute entire leaves.*)

All these sorts are cultivated here occasionally, only to augment the variety of our stove exotics, their fruit being of no value; they propagate abundantly free by layers and cuttings.

G.

GARDENIA. CAPE JASMINE. (*Pentandria monogynia.*)

A most beautiful evergreen flowering shrub from the Cape of Good-Hope, with ovate-lanceolate acute shining leaves, and large, tubulous, five-parted, very fragrant white flowers, with five anthera, one style, and a bilobed, two-celled, many-seeded berry.

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The most noted species is,
GARDENIA florida. Flowery Cape Jasmine.
 Varieties.

Double-flowered.

Single flowered.

In default of a stove, may also preserve it in a good green-house; and is propagated by cuttings and layers.—
 See *Green-house Plants.*

GENIPA (*Genipa.*) (*Pentandria monogynia.*)

A shrubby plant from the hot parts of America, producing pentandrious and monogynious wheel-shaped flowers, succeeded by oval fruit.

The species is,

GENIPA americana. American Genipa.

It may be raised from seeds, layers, and cuttings, assisted by heat.

GESNERIA. (*Gesneria.*) (*Didynamia angiospermia*)

A genus furnishing some shrubby exotics of the West-Indies, and garnished with large oval and lanceolate leaves, from four or five, to six or seven inches long; and bunches of purple and yellow tubulous flowers, having quinquefid cups, a monopetalous, tubulous-contorted corolla, five-parted above, two long and two short stamina, crooked style, and a roundish, bilocular, many-seeded capsule.

The species are,

1. **GESNERIA tomentosa.** Downy American Gesneria. (*Ovate-lanceolate, crenated, hairy and downy leaves; and long lateral peduncles, having purple flowers in a corymbus.*)

2. **GESNERIA humilis.** Dwarf American Gesneria. (*Spear-shaped, serrated, sessile leaves, and branching peduncles, with many flowers.*)

3. **GESNERIA acaulis.** Stalkless Jamaica Gesneria. (*Lanceolate-ovate, serrated petioled leaves in terminal crowded clusters, and short triflorous peduncles.*)

They are propagated by seeds from abroad, and by cuttings, assisted in the bark bed.

GLORIOSA (*Gloriosa.*) **SUPERB LILY.** (*Hexandria monogynia.*)

One species, a fleshy-rooted, beautiful, flowering, herbaceous perennial, producing long weak annual stalks, rising eight or ten feet high by support; long narrow leaves,

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leaves, terminating in a long point, and climbing tendrils, and large liliaceous, flame-coloured, drooping flowers; having no cup, six very long, spear-shaped, wholly reflexed petals; six spreading filaments, globular germen, slender style, crowned by a triple stigma, and the germen becomes an oval trilocular capsule, with globular seeds.

There is but one species, viz.

GLORIOSA superba. Superb Lily, or Malabarian Gloriosa.

Procure some roots of this plant early in the spring before they shoot, or in autumn, when the stalks decay; plant them separately in pots of rich earth, continued always in the stove, and they will flower in June and July with admirable elegance; and may propagate them by offsets of the root in autumn or spring.

GLYCINE (Glycine.) KNOB-ROOTED LIQUORICE VETCH. (*Diadelphia decandria*.)

It furnishes for the stove a tender perennial of the Indies, with twining climbing stalks, mounting several feet high; pinnated leaves, of many pair of small obtuse lobes, and papilionaceous purple flowers in short spikes; having ten diadelphous stamina, oblong germen, twisted style, and an oblong pod, with kidney-shaped seeds.

The species is,

GLYCINUS Abrus (Abrus) or West-Indian Liquorice Vetch. (*Abrupt pinnated leaves, of numerous obtuse pinnae, or lobes.*)

It is propagated by seeds from the West-Indies, sowed in a hot-bed, and by cuttings of the shoots.

GO SYPIUM. COTTON PLANT. (*Monadelphica polyandria*.)

A genus noted for furnishing the plants which produce that valuable commodity Cotton, in their seed pods; consisting both of shrubby and herbaceous plants, natives of the West Indies, &c. rising with upright branchy stalks, from three or four, to six or eight feet high; garnished with three-lobed, and palmated leaves, and yellow flowers, of five heart-shaped plane petals, many monadelphous stamina, roundish germen, and columnar style, succeeded in the germen by a large roundish, quadrilobular capsule, filled with a fine down called Cotton, in which is wrapped many seeds.

The chief species are,

1. *Gossypium arboreum*. Tree-like shrubby Indian Cotton. (*Shrubby branching stalk, palmated four or five-lobed leaves, with lanceolate lobes.*)
2. *Gossypium barbadensis*. Barbadoes Undershrubby Cotton. (*Three-lobed entire leaves, triglandulous underneath.*)
3. *Gossypium herbacea*. Herbaceous common West-India Cotton. (*Herbaceous polished stalks, and five-lobed leaves.*)

They are cultivated in great abundance in fields in the West Indies to furnish the Cotton, particularly the herbaceous kinds; a plant or two of each are retained here in curious stoves for variety, where they flower annually, and produce capsules of seed and Cotton, and are propagated by sowing the seeds in pots, plunged into the bark-bed, or any hot-bed.

GREWIA (*Grewia.*) (*Gynandria polyandria.*)

One shrubby evergreen from the Indies, requires the protection of the stove, growing five or six feet high, with lanceolate leaves, and greenish flowers in lateral clusters; having five-leaved cups, five spear-shaped petals, many gynandrious stamina, a roundish germen, slender style, and a four-lobed quadrilocular berry, with four seeds.

The species is,

GREWIA orientalis. Eastern Lancet-leaved *Grewia*. (*Sub-spear-shaped leaves.*)

It is propagated by cuttings and layers, struck in the bark-bed; also by seed from abroad.

GUAJACUM. *LIGNUM VITÆ*, or POCKWOOD. (*Dicandria monogynia.*)

Consists of three species, natives of the West-Indies and Africa, remarkable for the hardness of their wood, and their use in medicine; retained here in stoves, only for variety; growing with upright branchy stems, stiff pinnatifid leaves, and ornamental blue flowers in bunches at the ends of the branches; having quinquefid cups, five oval concave petals, ten stamina, or more, an oval germen and long style, succeeded by a roundish berry, having an oval seed.

The species are.

1. *GUAJACUM officinalis*. Officinal, or Common *Lignum Vitæ*, of Hispaniola and Jamaica. (*Pinnatifid leaves, divided into two pairs of obtuse folioles.*)

2. *GUAJACUM*

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2. *GUAJACUM sanctum*. Holy American Lignum Vitæ, of St. Johannis, Porto Rico. (*Pinnatifid leaves, divided into many pairs of obtuse folioles.*)

3. *GUAJACUM afrum*. African acute-leaved Guajacum. (*Pinnatifid leaves, divided into many pair of acute folioles.*)

These trees effect a desirable variety at all seasons of the year in their pinnatifid, multifid leaves, and are propagated principally by seed, vegetated in a hot-bed or bark-bed in the stove, their wood being so hard, that it does not succeed well by cuttings and layers, but may try the young shoots.

GUETTARDA (*Guettarda.*) (*Monoecia heptandria.*)

A beautiful tree of the East and West-Indies, adorned with very large, ovate roundish, venose, intire leaves, and male and female flowers, distinct on the same plant, in forked, cymose spikes or bunches; having cylindric cups, a long, tubulous, funnel shaped corolla, divided above in seven oblong lobes, seven short stamina in the males, and in the females a filiforme style, crowned with a cylindric-headed stigma, succeeded by a roundish, dry, drupaceous fruit, with six seeds.

The species is,

GUETTARDA speciosa. Specious Guettarda, of Java and Jamaica.

It may be raised from seeds; try also cuttings and layers, assisting the whole by means of a hot-bed.

GUILANDINA. BONDUC or NICKAR TREE. (*Decandria monogynia.*)

A genus of shrubby and tree-like, large pinnated-leaved exotics of the East and West-Indies, &c. rising with climbing and upright, prickly and smooth stems, garnished with large beautiful doubly-pinnated leaves, from half a foot to half a yard long, and pentapetalous yellow flowers in lateral spikes, having bell-shaped, quinquefid cups, five concave petals, ten stamina, an oblong germen, slender style, and the germen becomes a broad, oblong swelling unilocular, bivalve pod, including large oval hard seeds.

The species are,

1. *GUILANDINA Bonduc* (*Bonduc.*) Common Indian Bonduc. (*Prickly stems, large ovate pinnated leaves, with the folioles armed with single spines*)

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2. *GUILANDINA Bonducella* (*Bonducella*) or Lesser Indian Bonduc. (*Prickly stem, oblong-ovate pinnated leaves, having the folioles armed with spines by pairs.*)

3. *GUILANDINA Moringa* (*Moringa*.) Ceylon Nickar Tree, or Moringa. (*Unarmed stem, doubly-winged leaves, having the under folioles trifoliate.*)

4. *GUILANDINA Nuga* (*Nuga*) or Amboyna Nickar Tree. (*Unarmed stem, and the leaves and primary petioles armed with twin spines underneath.*)

These exotics afford an agreeable contrast in assemblage, with their fine pinnated leaves; and are propagated from seeds procured from abroad, which being remarkably hard, a previous soaking a day or two will facilitate their germination, sowing them in pots, and plunged in the bark bed, &c.

H.

HÆMANTHUS. BLOOD FLOWER. (*Hexandria monogynia.*)

A genus of admired herbaceous bulbous and tuberous-rooted, very ornamental flowery perennials of the liliaceous tribe, inhabitants of the hot parts of Africa, producing from the root, tongue-shaped, lanceolate, and keel shaped, fleshy leaves, and upright stalks, from three or four, to ten or twelve inches or more high; terminated by a cluster of tubulous, blood red flowers, produced from a six-leaved spathaceous involucre, a monopetalous corolla, cut into six segments; six long stamina, a germen under the flower, single style and stigma, and the germen succeeds to a roundish, trilocular berry with three seeds.

The species are,

1. *HÆMANTHUS coccineus.* Scarlet Blood Flower of the Cape. (*Tongue shaped, smooth plane leaves, and scarlet flowers.*)

2. *HÆMANTHUS carinatus.* Carinated or Keel-leaved African Hæmanthus. (*Linear carinated, or keel-shaped leaves, and paler red flowers.*)

3. *HÆMAN*

3. *HÆMANTHUS ciliata*. Ciliated-leaved Cape Hæmanthus. (*Tongue-shaped ciliated leaves, and red flowers.*)

4. *HÆMANTHUS puniceus*. Ruddy undulated Guinea Hæmanthus. (*Lanceolate-ovate, undulated erect leaves.*)

They are all perennial in root, which in the first three species are large bulbs, the last fort tuberos, sending up leaves and stalks annually; producing flowers mostly towards autumn, appearing very ornamental, and in the bulbous kinds particularly, the leaves coming up soon after, continue their growth all winter, effecting also an agreeable variety; decaying early in summer, which is the proper season to procure roots for planting, or to transplant them; planting them singly in pots of light rich earth; and all the sorts are propagated abundantly by off-sets of the roots.

HÆMATOXYLUM. LOGWOOD, or CAMPEACHY WOOD. (*Decandria monogynia.*)

A noted tree of the West-Indies, from whence great quantities of its wood are brought to Europe, as a valuable commodity in dying, and the plants are cultivated here in stoves for variety; where they assume a shrub-like growth, furnished with spines, winged leaves of three or four pair of obtuse folioles, and pentapetalous yellow flowers in erect clusters, composed of five-lobed cups, five oval petals, ten stamina, oval germen, one style, and an obtuse flat unilocular capsule, having two or three seeds.

The species is,

HÆMATOXYLUM *Campechianum* (*Campechianum.*)
Campeachy Wood, or Logwood.

It may be raised here from seeds, obtained from the West-Indies, sowed in a hot-bed, &c. try also layers and cuttings of the young shoots.

HEDYSARUM. FRENCH HONEYSUCKLE. (*Dia-
delphia decandria.*)

A genus comprising numerous species, herbaceous and shrubby, natives of many different climates; some of which being inhabitants of the hot parts of Asia and America, &c. a few of the more curious are retained here in stoves for variety, rising with moderate shrubby and undershrubby abiding stalks, furnished, some with heart-shaped, and ovate simple leaves, others ternate or trifoliate, and papilionaceous purple, and other coloured flowers,

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flowers, in terminal and lateral spikes; having quinquepartite cups, a corolla composed of an oblong emarginated standard, two narrow wings, and obtuse carina; ten diadelphous stamina, narrow germen, subulate, reflexed style, and the germen succeeds to a jointed pod, containing reniform seeds.

The chief species for the stove are,

1. *HEDYSARUM Styracifolium* (*Styracifolium*) or Storax-leaved Asiatic Hedysarum. (*Shrubby stalk, simple cordate-orbicular retuse leaves, smooth above.*)

2. *HEDYSARUM Ecastaphyllum* (*Ecastaphyllum*) or Silky American Hedysarum. (*Simple ovate leaves, silky underneath.*)

3. *HEDYSARUM pulchellum*. Elegant leafy-podded Indian Hedysarum. (*Trifoliate leaves, and bracteal folioles in a strobilus orbicular conjugated*)

4. *HEDYSARUM umbellatum*. Umbelliferous Indian Hedysarum. (*Shrubby stalk, ternate lanceolate leaves, and flowers growing in umbels.*)

5. *HEDYSARUM biarticulatum*. Two-jointed-podded Indian Hedysarum. (*Undershrubby stalks, trifoliate leaves, and pods having two joints.*)

6. *HEDYSARUM canescens*. Hoary Jamaica Hedysarum. (*Hispid stalks, ternate leaves, rough underneath, and conjugated clusters of flowers.*)

7. *HEDYSARUM viscidum*. Viscous Indian Hedysarum. (*Branchy hispid stalks, ternate leaves, and membranous smooth entire pods.*)

8. *HEDYSARUM vacillo*. Wavering Hedysarum, or Chinese Moving Plant.

They are admitted for variety in large stove collections, but the first sort is the most noted; they flower in summer and autumn, ripening seeds, by which they may be propagated in spring in a hot-bed, and by cuttings.

HELICTERES. SCREW TREE. (*Gynandria decandria.*)

A genus of shrub and tree kinds, of moderate growth, remarkable for their twisted screw-like fruit, natives of the Indies, and hot parts of America; growing from five or six, to twelve or fourteen feet high; ornamented with large heart-shaped, lanceolate and quinquelobated leaves, and pentapetalous, gynandrious, white flowers along the sides of the branches; composed of monophyllous, leathery, quinquelobed, spreading cups, five ob-

long

long petals, ten gynandrious stamina, long style, elevating at top, a roundish germen, which becomes a taper-spirally-twisted capsule of one cell, containing kidney-shaped seeds.

The species are,

1. *HELICTERES Ifora* (*Ifora*) or Contorted-fruited Malabar Screw Tree. (*Heart-shaped serrated leaves, and compound contorted pods, spirally twisted over one another.*)

2. *HELICTERES carthagenensis*. Carthaginian polyandrious Screw Tree. (*Heart-shaped serrated leaves polyandrious flowers, and oblong erect fruit.*)

3. *HELICTERES angustifolia*. Narrow-leaved China Screw Tree. (*Spear-shaped entire leaves, and oval erect fruit.*)

4. *HELICTERES apetala*. Apetalous American Screw Tree. (*Five-lobed leaves, dodecandrious, apetalous flowers, and divaricated pods.*)

The first sort is the most remarkable in its singular compound screw-like pods, and the principal species in our stove collections, in which the other three sorts also demand admittance for variety; where they will all flower, produce pods and ripe seeds, by which they may be raised, and by layers and cuttings, assisted by the heat of the bark bed, &c.

HELIOCARPUS (*Heliocarpus*.) SUN SEED. (*Dodecandria digynia*.)

Consist of a woody tree-like plant from South America, rising with an erect, soft, branchy stem, fifteen or twenty feet high; decorated with heart-shaped, venose alternate leaves, and yellow flowers in terminal clusters; having quinquefid spreading cups, a monopetalous corolla, spreading in five segments above; twelve stamina, roundish germen, with two styles, succeeded by an oval bilocular capsule, bordered with hairs like a radius, containing two seeds.

The species is,

HELIOCARPUS americana. American Heliocarpus from Vera Cruz.

It is propagated by seeds sowed in the spring, in pots plunged in a hot bed.

HELIOTROPIUM (*Heliotrope*.) TURNSOLE. (*Pentandria monogynia*.)

One

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One tender shrubby species from Peru, an ornamental sweet-flowering plant, is introduced in our green-house and stove collections, but which flowers the most abundant in a stove; growing three or four feet, with numerous branches, lanceolate-oval leaves, and many blue flowers in terminal branching spikes; having five-parted cups, five unequal perals, five stamina, one style, and seeds lodged in the calix.

The species is,

HELIOTROPIMUM peruviana. Peruvian sweet-scented Heliotrope.

It flowers ornamentally with a sweet odour, great part of the year; and is raised by seed and cuttings, assisted by a hot-bed.

HERNANDIA. JACK-IN-A-BOX TREE. (*Monoecia triandria*.)

Comprehends two evergreen tree kinds from the West-Indies, singular for their large, hollow, whistling seed-vessel; growing twenty feet high, or more, adorned with very large target-shaped and oval leaves, and male and female flowers, having a partial four-leaved involucre to several florets, with each a bell-shaped cup, six petals in the males, the females eight, three stamina, a roundish germen, with three styles, and the germen becomes a hard oval nut, enclosed in a large, swollen, hollow, perforated fruit, formed of the calix; and the wind blowing into the cavity, makes a sonorous whistling noise; whence the name *Jack in a-box*.

The species are,

1. *HERNANDIA sonora*. Sonorous-whistling Hernandia, or Jack-in a-box. (*Large peltated or target-shaped leaves*.)

2. *HERNANDIA ovigera*. Ovigerous East India Hernandia. (*Ovate leaves, having the foot-stalk affixed to the base.*)

Having beautiful large foliage they exhibit an elegant variety, and are raised here by their nuts, obtained from their native countries, and sowed in pots of good earth, plunged in the bark-bed, &c.

HIBISCUS. SYRIAN MALLOW. (*Monodelphia polyandria*.)

Comprises a capital collection of eminent ornamental flowering shrubs, inhabitants of the East and West-Indies,

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Indies, growing with shrubby and tree-like stems, dividing into branchy heads, from six or eight, to ten or fifteen feet high; decorated with heart-shaped-angular, and oval palmated, and peltated angulated leaves, and large pentapetalous, malvaceous, scarlet, red, purple, and yellow flowers; having a many-leaved outer cup, with an inner one monophyllous and quinquedentate; a corolla of five large heart-shaped petals; many monadelphous stamina, forming together a column, a roundish germen, and five-parted style, crowned with capitated stigmas, succeeded by a quinquevalvous capsule of five cells, pregnant with kidney-shaped seeds.

The species are,

1. **HIBISCUS** *Malvaviscus* (*Malvaviscus*.) Malvaceous heart-leaved Mexican Hibiscus. (*Tree-like stem, heart-shaped crenated leaves, lateral-angled, the hindmost angles small, and large beautiful scarlet flowers, having twisted petals.*)

2. **HIBISCUS** *Rosa sinensis* (*Rosa sinensis*.) Rose of China. (*Tree-like stem, ovate acute-pointed, serrated smooth leaves, and large beautiful rosaceous flowers.*)

Varieties.

Single-flowered.

Double-flowered.

Dark-red flowered.

3. **HIBISCUS** *mutabilis*. Changeable-flowered Indian Hibiscus, or China Rose. (*Tree-like stem, heart-shaped, five angled leaves, and large spreading flowers, changing from white to red.*)

4. **HIBISCUS** *ficulneus*. Fig-leaved Ceylon Hibiscus. (*Prickly stem, five-lobed-palmated leaves.*)

5. **HIBISCUS** *populneus*. Popular-leaved Indian Hibiscus. (*Tree-like stem, heart-shaped entire leaves, and truncated outer cup.*)

6. **HIBISCUS** *spinifex*. Spinose-capsuled American Hibiscus. (*Heart-shaped, undivided, crenated leaves, and prickly capsules.*)

7. **HIBISCUS** *Abelmoschus* (*Abelmoschus*.) Musky Indian Hibiscus. (*Sub-peltated, or target-form-heart-shaped, seven-angled, sawed, hispid leaves.*)

8. **HIBISCUS** *Manihot* (*Manihot*) or Digitated-leaved Indian Hibiscus. (*Palmated-digitated or fingered, seven-parted leaves.*)

9. **HIBIS-**

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9. *HIBISCUS tiliaceus*. Lime-tree-leaved Indian Hibiscus. (Tree-like stalk, roundish-heart shaped, pointed, undivided, crenated leaves, the outer calyx ten-notched.)

10. *HIBISCUS brasiliensis*. Brazilian Mulberry-leaved Hibiscus. (Shrubby stalk, hairy branches, having heart-shaped indented leaves, the outer calyx doubly longest.)

11. *HIBISCUS hirtus*. Hairy herbaceous Indian Hibiscus. (Herbaceous stalk, rough branches, and lanceolate ovate, serrated pointed leaves.)

12. *Hibiscus simplex*. Single-stalked Asiatic Hibiscus. (Heart-shaped trilobated scolloped, entire leaves.)

Several of these plants produce flowers of the most singular beauty and elegance, principally the first three species, but the second and third sorts most of all, having flowers almost equalling our finest roses; though all the others flower very conspicuously, effecting an ornamental variety; and most of the species often produce ripe seeds, by which they may be raised, by the assistance of an hot-bed, in March or April; also several of them by cuttings of their young shoots in spring and summer, in pots of light earth, plunged into the bark-bed.

HIPPOMANE. MACHINEEL TREE. (*Monocia m-nadelpbia.*)

A genus comprehending three large trees of South-America, where they are remarkable for their poisonous fruit of mortal quality, as well as the malignancy of the milky corrosive juice of their leaves and wood, even dangerous when only outwardly applied to any part of the body, causing violent blisters, painful itchings, swellings, and inflammations; a few of the trees are admitted into our stove collections for variety, and the beauty of their shining evergreen leaves, which are oval, oblong, and sub oval in the different species, and male and female flowers separated in spikes, having no petals, monadelphous or united stamina, an oval germen, crowned by a tripartite stigma, and the germen becomes a roundish, apple-shaped, golden-coloured fruit of their cells and seeds.

The species are,

1. *HIPPOMANE Mancinella* (*Maucinella*) or Machineel Tree. (Egg oval, serrated leaves.)

2. *HIPPOMANE biglandulosa*. Biglandular-leaved Machineel Tree. (Ovate-oblong leaves, having two glands at the base.)

3. *Hir-*

3. HIPPOMANE *spinosa*. Thorny or Holly-leaved Machineel Tree. (*Sub-egg-oval, indented thorny leaves.*)

In our stoves they assume only a shrub-like growth, and are easily raised from seeds, obtained from the West-Indies, sowed in spring in pots of light earth, and plunged in the stove bark-bed, &c.

HURA (*Hura*) or SAND-BOX-TREE. (*Monoecia monodelphia.*)

A beautiful heart-leaved tree of the West-Indies, singular for its remarkable seed capsules, sometimes used as sand-boxes for writing-desks, and while growing on the trees, burst open when ripe, with an elastic force and great explosion; rises with a ligneous soft stem, and branchy head, adorned with large heart-shaped leaves of eight or ten inches expansion, and male flowers in oval amentums, without petals, and female flowers separate; having columnar stamina and anthera in the males, in the females a roundish germen and long style, crowned by a large funnel-shaped twelve-parted stigma; succeeded by a large globular twelve-furrowed fruit, with as many internal cells and seeds, bursting at top with an elastic force and explosion, like a pistol, discharging the seeds.

There is but one species, viz.

HURA *crepitans*. Bouncing American Hura, Farting Tree, or Sand-box Tree.

This tree makes a fine appearance with its beautiful ample foliage, and is propagated by seed, assisted in a bark-bed, &c.

HYMENÆA LOCUST TREE. (*Decandria monogynia.*)

One species; a large spreading gummiferous tree of South-America, furnished with oblong stiff smooth leaves by two together, connected at the base, and yellow purple-striped flowers in loose spikes; having a two-lobed outward involucre, with a quinque-lobed inner cup, five spreading petals, ten declinated stamina, an oblong germen, reclining style, and the germen becomes a large thick ligneous pod, divided into partitions, each including a large compressed seed.

The species is,

HYMENÆA *Courbaril* (*Courbaril.*) American Locust Tree, or Gum Elimi Tree.

It

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It is propagated by seed procured from the West-Indies, sowed singly in small pots, and plunged in a bark bed.

J.

JATROPHA. CASSADA PLANT, CASSAVA, or MANIHOT. (*Monoecia monadelphia.*)

It comprises several shrub-like plants of the West-Indies, &c. from four or five, to six or eight feet high; adorned with large divided palmated, multifid, quinquepartite, angular and oval leaves, and male and female yellow, purple, and scarlet flowers in umbellate clusters; having very small cups in the males, a salver-shaped, five-parted corolla, and ten stamina; and in the females no cup, five rosaceous petals, a roundish trifurcated germen, and three styles, succeeded by a round trilocular capsule with three seeds.

The chief species are,

1. *JATROPHA Manihot* (*Manihot Cassavi.*) Common Cassada, or esculent-rooted American Jatropha. (*Palmated leaves of several spear-shaped smooth entire lobes.*)
2. *JATROPHA multifida.* Multifid Scarlet Jatropha. (*Many-parted smooth leaves, and bristly multifid stipula.*)
3. *JATROPHA urens.* Stinging Prickly Brazilian Jatropha. (*Palmated dentated prickly leaves.*)
4. *JATROPHA Curcas* (*Curcas.*) Angular-leaved American Jatropha. (*Heart-shaped-angular leaves*)
5. *JATROPHA gossypifolia.* Cotton-plant-leaved American Jatropha. (*Leaves quinquepartite, or divided into five oval entire lobes.*)
6. *JATROPHA moluccana.* Molucca ovate-leaved Jatropha. (*Egg-oval entire leaves, slightly indented.*)

These plants are introduced as flowering shrubs, and for variety in our hot-houses, where they are raised from seed, and by cuttings, forwarded by the assistance of a hot-bed, or bark-bed.

In the West-Indies the *Jatropha Manihot* is of great value for its fleshy root, which after being divested of its juice by expression, said to possess a poisonous quality.

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is reduced to a kind of rough saw-dust like meal, then formed into a wholesome cake, bread, pudding, &c.

INDIGOFERA. INDIGO PLANT. (*Diadelphia decandria*.)

It consists of herbaceous and shrubby-like plants, natives of India, famous for yielding that valuable blue tincture or dye, called Indigo, being the digested substance by fermentation of the small branches and leaves of the plants, which grow four, five, or six feet high; adorned with winged and ternate leaves, and papilionaceous flowers in clusters and spikes; having quinquefid spreading cups, a corolla composed of a roundish standard, two oblong wings, and obtuse keel; ten diadelphous stamina, cylindric germen, and short style, succeeded by a taper pod, with kidney seeds.

The principal species are,

1. *INDIGOFERA tinctoria*. Tincturous or Common Dyeing Indigo Plant. (Clusters of flowers shorter than the leaves, and bowed hoary pods.)

2. *INDIGOFERA racemosa*. Racemous long-clustered-African Indigo. (Ternate leaves, long racemose clusters of flowers, and drooping pods.)

3. *INDIGOFERA hirsuta*. Shaggy tetragonous-podded Indigo. (Tetragonous, pendulent, hairy-woolly pods.)

4. *INDIGOFERA trifoliata*. Trifoliate Indigo. (Trifoliate leaves, with lanceolate folioles, and compressed sessile pendulous pods.)

They are admitted in many of our curious stove collections for variety and observation, where, being plunged mostly in the bark-bed, they grow freely, flower, and produce seeds, by which they may be easily raised.

JUSSIEUA (*Jussieua*.) (*Decandria monogynia*.)

A genus of herbaceous and undershrubby exotics from India and America, of two or three feet growth; garnished with oblong leaves and yellow flowers, having five-lobed permanent cups, five or four roundish petals, ten or eight stamina, oblong germen, and one style, crowned by a flat stigma, succeeded by an oblong capsule full of small seeds.

The noted species are,

1. *JUSSIEUA repens*. Creeping Indian Jussieua. (Creeping stalks, ovate-oblong leaves, peduncles longer, and flowers with five petals and ten stamina.)

2. Jus-

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2. *JUSSIEUA peruviana*. Peruvian erect Jussieua. (*Erect stalks, leafy pedunculi, and flowers having five petals.*)

3. *JUSSIEUA pubescens*. Downy American Jussieua. (*Erect villose stalks, sessile flowers, having five petals and ten stamina.*)

4. *JUSSIEUA suffruticosa*. Undershrubby Indian Jussieua. (*Erect villose stalks, and pedunculated flowers having four petals and eight stamina.*)

They all flower here in July and August, succeeded by ripe seeds, by which the plants may be raised in a hot-bed in the spring.

JUSTICIA (*Justicia*.) **MALABAR NUT.** (*Diandra monogynia.*)

A genus furnishing a collection of tree and shrubby exotics for the stove, residents of the hot parts of India, &c. rising some with a woody stem, and branchy heads ten or twelve feet high, others shrub-like, from three or four, to five or six feet; furnished with lanceolate-oval, and spear-shaped opposite leaves, some very large; and tubulous bilabiated white, reddish, and blueish flowers, collected in spikes at the ends and sides of the branches, composed of small, five parted cups, a monopetalous tubulose corolla, divided above into two parts, the upper arched, and the under reflexed; two stamina, oblong germen, one style, and an oblong, bilocular, elastic capsule, with round seeds.

The species of note are,

1. *JUSTICIA Adhatoda* (*Adhatoda*.) Ceylon Adhatoda, or Malabar Nut. (*Tree-like stem, large lanceolate-ovate leaves, ovate persistent floral bractea, and concave helmet to the flowers.*)

2. *JUSTICIA Echolium* (*Echoliun*) or Reflexed-flowered Ceylon Justicia. (*Tree-like stem, lanceolate-ovate leaves, four cornered spikes, ovate floral bractea, and flowers with reflexed upper lips.*)

3. *JUSTICIA scorpioides*. Scorpion-tail Vera Crucis Justicia. (*Shrubby stalk, lanceolate-ovate hairy sessile leaves, and flower-spikes reflexed, like a scorpion's tail.*)

4. *JUSTICIA hyssopifolia*. Hyssop-leaved Justicia from the Island Fortunatus. (*Shrubby stalk, narrow, spear-shaped entire leaves, peduncles three flowered two-edged, and short bractea*.)

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5. *JUSTICIA picta*. Painted leaved Asiatic Justicia. (Shrubby stalk, lanceolate-ovate, painted leaves, and the jaws of the corolla inflated.)

6. *JUSTICIA infundibuliformis*. Funnel-shaped-flowered Indian Justicia. (Shrubby stalk, lanceolate-ovate leaves by fours; lanceolate-ciliated bractea, and large funnel-shaped corolla.)

They are preserved here in hot-houses, to increase and diversify the assemblage of stove exotics, and in which they flower annually in summer, though the *Justicia adhatoda* is also retained as a green-house plant, in default of a stove; they are propagated by layers, cuttings, and seeds, by the assistance of the bark-bed in spring and summer.

IXORA (*Ixora*.) INDIAN WILD JASMINE. (*Tetrandria monogynia*.)

Consists of three shrubby ornamental flowering exotics from the East and West-Indies, growing with shrubby stems and many slender branches, from four to five or six feet high, decorated with large oval, and lanceolate-ovate leaves, opposite and by threes; and funnel-shaped, red and white flowers in terminal clusters; having four-lobed cups, a long monopetalous, funnel-shaped, four-parted corolla, four stamina, roundish germen, slender style, and the germen becomes a bilocular, two seeded berry.

The species are,

1. *IXORA coccinea*. Scarlet Indian Ixora. (Oval leaves half embracing the stalk, and scarlet flowers in bunches.)

2. *IXORA alba*. White Indian Ixora. (Ovate lanceolate leaves, and bunches of white flowers.)

3. *IXORA americana*. American ternate-leaved Ixora. (Lanceolate-oval leaves, ternate or by threes; and white flowers produced thyrse-like.)

They effect a pretty variety in foliage and flowers; and are propagated by seeds and cuttings, vegetated in the bark-bed, &c.

K.

KÆMPFERIA (*Kæmpferia.*) - (*Monandria monogynia.*)

Two low herbaceous flowery perennials from the East Indies, with thick clustering tuberous fleshy roots, sending up large oval and lanceolate leaves, from four or five, to six or eight inches long; and between them near the root low tubulous, six-parted white and purple flowers, being divided into three lanceolate and three oval segments, one stamina, oval germen, single style, and the germen becomes a roundish trilocular, many-seeded capsule.

The species are,

1. *KÆMPFERIA Galanga* (*Galanga.*) Galangale or Long-rooted Kæmpferia. (*Egg-oval leaves, sitting close to the root, without footstalks, and white flowers with purple bottoms.*)

2. *KÆMPFERIA rotunda.* Round-rooted Kæmpferia (*Lanceolate leaves elevated upon footstalks, and flowers tinged with white, red, purple, &c.*)

Plant the roots in pots of light earth; they will flower ornamentally three or four weeks in summer, and are propagated by slipping the root-off-sets in spring, before they shoot.

L.

LAGERSTROEMIA (*Lagerstroemia.*) (*Polyandria monogynia.*)

An ornamental Chinese tree, adorned with oblong entire, almost-fessile, smooth, alternate leaves, and flowers terminating the shoots in loose thyrsaceous bunches having many stamina, and one style.

The species is,

LAGERSTROEMIA indica. Indian Lagerstroemia.

Propagate it by seeds, layers and cuttings, in plunged in the bark-bed.

LANTAN

LANTANA (*Lantana*.) AMERICAN VIBURNUM.
(*Didynamia angiospermia*.)

Comprehends for the stove collection several shrubby exotics from the West-India islands, &c. growing with shrubby stems and branchy heads, from three or four, to six or eight feet high; furnished with oval-oblong, and roundish roughish leaves, opposite and ternate; and red, purple, yellow, and white tubulous flowers, in oblong spikes, and umbellate heads; having quadrifid cups, a monopetalous, tubular corolla, divided above in four or five hemispherical obtuse segments, two short and two long stamina, a roundish germen, slender style, with a crooked stigma; and the germen succeeded by a roundish unilocular drupa, including a bilocular nut.

The species are,

1. LANTANA *aculeata*. Prickly American Lantana. (*Prickly stem, and branchy; opposite-ovalish hairy leaves, and umbellate hemispherical heads of scarlet flowers.*)

2. LANTANA *Camara* (*Camara*.) or leafless-headed American Lantana. (*Unarmed stem and branches, opposite-oblongish rough leaves, and umbellate heads of flowers leafless.*)

3. LANTANA *involucrata*. Involucrum-headed American Lantana. (*Unarmed stalks, opposite roundish, rough leaves, and umbellate flower heads, having a leafy involucrum.*)

4. LANTANA *trifolia*. Three-leaved Lantana. (*Unarmed stem, ovalish rough leaves by threes, and oblong imbricated flower spikes.*)

5. LANTANA *salvifolia*. Sage-leaved Æthiopian Lantana. (*Leaves opposite; oblongish-ovate sessile flowers; in racemous clusters.*)

6. LANTANA *africana*. African alternate-leaved Lantana. (*Leaves oblong, alternate sessile; flowers singly.*)

7. LANTANA *odorata*. Odorous or sweet-scented Lantana.

8. LANTANA *glabra*. Smooth-leaved Lantana.

They mostly retain their leaves all the year, flower ornamentally from June, July, and August, until winter. often succeeded by ripe seeds, by which they may be raised, sowed in spring in pots, and plunged into a hot-bed; also by cuttings, struck by the same assistance.

LAURUS (*Bay Tree.*) CINNAMON TREE, &c. (*Enneandria monogynia.*)

It furnishes for the stove some ornamental tender tree kinds, from the hot parts of India and America; garnished with oval-oblong, oval, and spear-shaped, nerve leaves, and small flowers, of six oval, concave petals, nine stamina, oval germen, single style, succeeded by an oval unilocular berry, containing one nut or seed.

The species are,

1. LAURUS *Cinnamomum* (*Cinnamomum.*) Indian Cinnamon Tree of the Island Ceylon. (*Ovate-obtuse, oblong, three nerved leaves, the nerves vanishing towards the top.*)

2. LAURUS *Cassia* (*Cassia.*) Perpetual flowering Bastard Cinnamon Tree of Malabar. (*Spear-shaped, triple-nerved leaves.*)

3. LAURUS *Persea* (*Persea.*) Alligator Pear, or Corymbus-flowering American Laurus. (*Ovate, thick leathery, veined, evergreen shining leaves; flowers in a corymbus; and large pear-shaped eatable fruit, in America.*)

4. LAURUS *Chloroxylon* (*Chloroxylon.*) Yellow-wood, or stiff-leaved Jamaica Laurus. (*Ovate, thick-leathery, three nerved leaves, the nerves reaching the top*)

5. LAURUS *fatans*. Fœtid or stinking American Bay.

6. LAURUS *chinensis*. Chinese Bay.

These trees deserve admittance in every eminent collection, for curiosity and variety, as well as for the beauty of their shining leaves; and may be raised by seed procured from their native countries and the West-Indies, sowed in pots, and plunged into a tan hot-bed, or that in the stove; try also layers and cuttings, covering the latter close with a hand-glass.

LEEAE (*Leea.*) (*Monœcia pentandria.*)

Contains two tender exotics of America, &c. rising with jointed and equal stalks, producing male and female flowers apart, on the same plant; the males having five stamina.

The species are,

1. LEEA *crispa*. Curled jointed stalked Leea.

2. LEEA *æquata*. Equal stalked Leea.

3. LEEA *nova*. New Leea.

LIMODORUM (*Limodorum.*) BASTARD HELLEBORE. (*Gynandria diandria.*)

A tuberous

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A tuberous-rooted flowery perennial of America, sending up several long narrow, acute-pointed leaves, and an upright smooth naked purplish stalk, near half a yard high, terminated by a spike of reddish-purple flowers, composed of five oval, dissimilar petals, and a long concave nectarium, two gynandrious stamina, columnar germen, a slender style, and the germen succeeds to a column-shaped, trivalvous, unilocular capsule, including roundish seeds.

The species is,

LIMODORUM tuberosum. Tuberous-rooted American *Limodorum*.

This exotic is perennial in root, but annual in leaf and stalk, which rise in the spring, and flower in summer or autumn very ornamentally; and is easily propagated by off-sets of the root.

LIMONIA (Limonia.) (Decandria monogynia)

An East-Indian tree of the island Ceylon; ornamented with pinnated leaves, and flowers having five petals, ten stamina and one style, succeeded by round yellowish fruit.

The species is,

LIMONIA acidissima. Most-acid-fruited *Limonia*.

It may be raised here in the hot-house, &c. by seed obtained from abroad, sowed in pots placed in the bark-bed; and try also cuttings and layers.

LOBELIA (Lobelia.) CARDINAL FLOWER. (*Syngenesia monogamia.*)

It furnishes two or three tender shrubby exotics, and an herbaceous plant of the East and West-Indies, very ornamental in the stove; rising, the shrubby sorts, from three or four, to five or six feet; the herbaceous kind not above a foot; garnished with oval-oblong, linear, and lanceolate leaves, and white, and blue tubulous flowers, having small quinque-dentate cups, a long cylindric corolla, five parted, and spreading above; five syngenesious stamina, an acuminate germen under the corolla, cylindric style, and the germen becomes an oval bilocular capsule, with numerous seeds.

The species are,

1. *LOBELIA plumierii.* Plumier's shrubby Indian *Lobelia*. (*Shrubby stem, and oval-oblong intire leaves.*)

M 2

LOBE.

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2. *LOBELIA surinamensis*. Surinam shrubby Lobelia. (Undershrubby stalks, and oblong smooth, serrated leaves, axillary flowers pedunculated.)

3. *LOBELIA pinifolia*. Pine-tree leaved Æthiopian Lobelia. (Shrubby stem, and narrow linear, intire leaves, crouded)

4. *LOBELIA longiflora*. Long-flowered Jamaica Lobelia. (Herbaceous stalk, spear-shape indented leaves, short lateral peduncles, with flowers having a very long slender tube.)

These species are admitted for variety, and as flowery plants, and the *Lobelia longiflora* also for the singularity of its long-tubed flowers, and may all be raised from seed sowed in the spring in pots plunged in the tan-bed in the stove, &c. may also try the shrubby kinds by young cuttings in spring and summer.

M.

MALPIGHIA. BARBADOES CHERRY. (*Decandria trigynia*.)

A genus composed of tree and shrubby exotics of South-America, &c. growing, some with tree-like, branchy stems, from ten or fifteen, to twenty feet high, others assuming a shrubby growth, five, six, or eight feet in height; adorned with oval oblong, and spear-shaped leaves, and large rose-coloured, red and purple, pentapetalous flowers in clusters, spikes, and singly, having five-leaved, connivent cups, five reniform petals, ten stamina, roundish germen, three styles, and the germen becomes a large globose, unilocular, cherry-like berry, with three angular seeds.

The most remarkable species are,

1. *MALPIGHIA glabra*. Smooth Jamaica Malpighia. (Ovate, smooth, intire leaves, and pedunculated umbellate clusters of rose-coloured flowers.)

2. *MALPIGHIA punicifolia*. Pomegranate-leaved American Malpighia. (Ovate, smooth, intire leaves, and peduncles, sustaining each one red flower.)

3. *MALPIGHIA urens*. Stinging-leaved Malpighia. (Oblong ovate leaves, armed underneath with decumbent bristly, stinging hairs, and aggregate peduncles one-flowered.)

4. *MAL*

4. *MALPIGHIA nitida*. Glossy-leaved Malpighia. (*Lanceolate intire, smooth shining leaves, and lateral spikes.*)

5. *MALPIGHIA verbascifolia*. Moth-mullein-leaved Malpighia. (*Lanceolate-ovate, downy intire leaves, and terminal clusters of flowers.*)

6. *MALPIGHIA aquifolia*. Holly-leaved Malpighia. (*Lanceolate indented-spinose leaves, hispid underneath.*)

7. *MALPIGHIA coccigera*. Scarlet-grain bearing Malpighia. (*Sub-ovate, dentated, spinous leaves, having scarlet glands.*)

8. *MALPIGHIA crassifolia*. Thick-leaved Malpighia. (*Ovate intire leaves, downy underneath, and terminal clusters of flowers.*)

9. *MALPIGHIA angustifolia*. Narrow-leaved Malpighia. (*Linear-lanceolate leaves, armed with declining rigid bristles; and umbellate flowers peduncled.*)

Most of these shrubs flower here in the stoves very ornamentally, and afford an agreeable variety in their foliage; the first four sorts are the most noted in the English gardens; but all the species may be easily raised from seed in spring, by the assistance of a hot-bed, and by which also may try layers and cuttings.

MAMMEA. MAMMEE TREE. (*Polyandria monogynia.*)

Consists of two large American and Asiatic trees, of beautiful evergreen growth, and admired for producing large, exquisitely rich-flavoured eatable fruit in their native soil, where they also arrive to a stupendous altitude, garnished with large elegant, oval-oblong, stiff splendid leaves, and large flowers, having four broad concave petals, numerous stamina, a roundish depressed germen, single style, succeeded in the germen by a large globular, unilocular, yellowish fruit, containing four sub-oval seeds.

The species are,

1. *MAMMEA americana*. American Mammee Tree of Jamaica. (*Stamina shorter than the flower.*)

2. *MAMMEA asiatica*. Asiatic Mammee Tree of Java. (*Stamina longer than the flower.*)

These curious trees demand observation in all capital collections as beautiful evergreens, and are raised by the

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feeds of the fruit obtained from abroad, sowed in pots of light rich earth, and plunged in the stove bark-bed.

MANGIFERA. MANGO TREE. (*Pentandria monogynia*.)

A considerable tree of the East-Indies, garnished with very long spear-shaped, pointed leaves, and loose peduncles of flowers; having quinquedid cups, five spear-shaped petals, five stamina, roundish germen, one style, and the germen becomes a large reniform plum-like fruit, including one nut, and is admired as a choice pickle when green, and when ripe, to eat, it having a delicious flavour, but the tree produces none in England; we, however, receive abundance of them in pickle from India.

The species is,

MANGIFERA indica. Indian Mango Tree.

It may be raised from the nuts procured from the Indies, as fresh as possible; sowed in pots of earth, and plunged into a bark hot-bed.

MARANTA. INDIAN ARROW-ROOT. (*Monandria monogynia*.)

A genus containing two herbaceous, arundinaceous perennials from India and America; furnished with thick fleshy knotty roots, producing long reed-like, sharp pointed, smooth leaves, upright annual stalks, half a yard, or two feet high, terminated by loose bunches of white flowers, having three-leaved cups, a monopetalous, tubular, ringent corolla, six parted above, one stamina, roundish germen, simple style, and a trigonous, trivalvovous, one-seeded capsule.

The species are,

1. **MARANTA arundinacea.** Arundinaceous, or Reedy American Maranta. (*Branching stalk.*)

2. **MARANTA Galanga** (*Galanga*) or Galingale Indian Arrow-Root. (*A simple or unbranched stalk.*)

They demand culture for variety, and as flowery plants in our stoves; where they may be propagated by slipping their roots.—The wild Indians apply a poultice of the root to wounds made by poisoned arrows, to extract the poison: hence the name.

MARTYNIA (*Martynia*.) (*Didynamia angiospermia*.)

For the stove, is one herbaceous, knotty rooted perennial from the hot regions of America, rising with several upright,

upright, thick, purplish, annual stalks, a foot or more high, oblong serrated, thick leaves, and terminated by spikes of bell-shaped blue flowers, five-parted at top; two short, two long stamina, oblong germen, and one style, succeeded by an oblong, two-parted, tough capsule, including a quadrilocular hard nut, containing the seeds.

The species is,

MARTYNIA perennis. Perennial American Martynia. (*Simple or unbranched stalks, and serrated leaves.*)

It flowers ornamentally towards autumn, and is propagated by dividing the off-sets of the root, and by planting cuttings of the stalks in summer, in pots, plunged or struck in the bark-bed.

MELASTOMA. AMERICAN GOOSEBERRY TREE. (*Decandria monogynia.*)

A genus comprising many evergreen tree and shrub kinds, natives of America and Asia, &c. adorned with large oblong-oval, heart-shaped, and lanceolate nervose and downy leaves, and pentapetalous whitish, and purple flowers in spikes and clusters, at the sides and ends of the branches; having monophyllous swelling permanent cups, five roundish petals, ten short stamina, a roundish germen under the corolla, and one style, succeeded in the germen by a quinquelocular berry, with many small seeds.

The most popular species are,

1. *MELASTOMA holosericea*. Velvet or Sattiny-leaved Brazilian Melastoma. (*Oblong-ovate, three-nerved, intire leaves, downy and sattiny underneath, and two-parted spikes.*)

2. *MELASTOMA Grossularoides* (*Grossularoides.*) or American Gooseberry of Surinam. (*Ovate, denticulated, acute-pointed, three-nerved leaves.*)

3. *MELASTOMA hirta*. Hairy American Melastoma. (*Hispid stalks, large ovate-lanceolate, denticulated, five-nerved leaves.*)

4. *MELASTOMA scabrosa*. Rugged Jamaica Melastoma. (*Downy villous branches, heartshaped, dentated, five-nerved, rugged leaves, downy underneath.*)

5. *MELASTOMA laevigata*. Smooth American Melastoma. (*Ovate-oblong, intire, five-nerved, pointed, smoothish leaves, with polished margins.*)

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6. MELASTOMA *aspera*. Rough Indian Melastoma. (*Spear-shape, three-nerved, rough, intire leaves.*)

7. MELASTOMA *Acinodendron* (*Acinodendron.*) or Plantain-leaved American Melostama. (*Ovate acute, denticulated, three-nerved leaves.*)

8. MELASTOMA *octandra*. Octandrious Indian Melastoma. (*Ovate, intire, three-nerved, smooth leaves, with hispid margins.*)

These shrubs have singular beauty as evergreens, though the first sort is the most noted in our gardens, but all the sorts exhibit an admirable variety in their different foliage, being mostly large, and of various tints and hues, some having the under side white and silky, gold coloured, rusty, &c. with the upper surface of different shades of green, effecting a fine diversity the year round, and produce their spikes and clusters of flowers in summer, but rarely ripen seeds here.

They may be propagated by seed obtained from the West-Indies, sowed in pots, and forwarded in a bark-bed, &c. Make trial also of layers and cuttings.

MESUA (*Mesua.*) Indian Rose-Chesnut. (*Monadelphia polyandria.*)

An Indian shrub, adorned with spear-shape leaves, and rosaceous flowers, having five heart-shaped petals, numerous united stamina, divided styles, and a capsule with kidney shape seeds.

The species is,

MESUA *ferrea*. Ferreous Indian Mesua.

Propagate it by seed; making trial also of cuttings and layers, by aid of an hot-bed.

MICHELIA (*Michelia.*) (*Polyandria polygynia.*)

A shrubby exotic of India, adorned with simple alternate leaves, and polypetalous flowers, having many stamina, germina, and stigmas, and the like number of seed vessels, with many seeds.

The species is,

MICHELIA *Champaca* (*Champaca.*) or Indian Michelia.

The propagation of this beautiful plant is by seed, layers, and cuttings, in a hot-bed.

† MIMOSA. SENSITIVE PLANT, and ACACIA, &c. (*Polygamia monoecia.*)

A genus

A genus of singular pinnated-leaved exotics, shrubby, and some herbaceous and tree kinds, natives of the East and West-Indies, and America; several of which exhibit a wonderful singularity in the surprising sensibility and motion of their leaves, which, on being touched, suddenly recede, contract, and bend downward, in an astonishing manner; some assume an erect growth, others declining, and some trailing, generally very branchy; some armed with thorns, others not, and all of them with neat pinnated or winged leaves of many pairs of small pinnæ or folioles, and small male, female, and hermaphrodite purple, whitish, and yellow flowers, in spikes and clusters; having monophyllous, quinque-dentate cups, a funnel-shaped, monopetalous, quinquefid corolla, many stamina, oblong germen, one style, and the germen succeeds to a long pod, divided internally by transverse partitions, filled with roundish seeds.

There are numerous species, some of which are of the sensitive kind, others not; we therefore divide them accordingly; and the most remarkable species are,

MIMOSA, or sensitive kinds.

These are remarkable for the singular motion of their leaves when touched, which in some only contract the pinnæ, or small lobes; others not only contract the folioles, but together with the foot-stalks, quickly recede, and decline downward at the joint; the former being distinguished by the name of *sensitive*, the latter of *humble plants*, by the whole leaf falling at the touch.

Shrubby kinds.

1. *MIMOSA sensitiva*, or Sensitive Mimosa of Brasil: (*Armed with prickles, conjugated pinnated leaves, having two pair of partial folioles, the inner ones smallest.*)

2. *MIMOSA pudica*. Modest or bashful American Mimosa, or Humble Sensitive Plant. (*Prickly; with hispid stalk, sub-digitated or fingered pinnated leaves; with the lobes expanding like the fingers of an hand.*)

3. *MIMOSA pernambucana*. Pernambucan Slothful Sensitive Plant. (*Smooth decumbent stalks, doubly-pinnated leaves, and drooping spikes of pentandrious flowers.*)

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4. *MIMOSA punctata*. Punctated or dotted American Sensitive Plant. (*Without spines, cylindric erect stalks, doubly-pinnated leaves, and spikes of decandrious flowers.*)

5. *MIMOSA asperata*. Rough Jamaica Sensitive Plant. (*Prickly hairy stem; and doubly-pinnated opposite prickly leaves, with longer erect spines, singly between the pinnæ.*)

6. *MIMOSA virgata*. Twiggy Indian Mimosa. (*Without spines; erect angulated stems, doubly-pinnated leaves, and spikes of decandrious flowers.*)

7. *MIMOSA pigra*. Slow American Sensitive Plant. (*Prickly polished, with doubly pinnated opposite prickly leaves, and longer erect spines, singly between the pinnæ.*)

Herbaceous kinds.

8. *MIMOSA viva*. Vivaceous, Jamaica Sensitive Plant. (*Without spines, herbaceous, creeping, very branchy stalks, conjugated pinnated leaves, of four pair of roundish partial lobes.*)

9. *MIMOSA quadrivalvis*. Quadrivalve-podded Vera-Crucian Humble Plant. (*Quadrangular prickly stalks, with recurved spines, doubly-pinnated leaves, and pods opening with four valves.*)

10. *MIMOSA plena*. Double-flowered annual Sensitive Plant of Vera-Cruce. (*Smooth erect stalk, doubly-pinnated leaves, and spikes of pentandrious flowers, the under ones double.*)

Of the above Sensitive and Humble Plants, the first three or four shrubby, and the herbaceous kinds are the most noted.

Acacia kinds.

These are of the Insensible Mimosas, the leaves being mostly destitute of motion or sensibility at the touch; they formerly composed a distinct genus by the title of *Acacia*; some of which are remarkable for their horned-like spines.

11. *MIMOSA cornigera*. Horn-bearing, Mexican Mimosa, or Great Horned Acacia. (*Large horned-like, stipular white spines by pairs, joining at the base, and doubly-pinnated leaves.*)

12. *MIMOSA farnesiana*. Farnesian Fragrant Indian Acacia of Domingo. (*Stipular spines placed distinct, doubly-pinnated leaves, the wings having eight pair of partial*

partial lobes, and globular sessile spikes of ornamental fragrant flowers.)

13. *MIMOSA nilotica*. Nilotic or Ægyptian Acacia; the Succus Acacia, or Gum Arabic Tree. (Stipular spines spreading asunder, doubly pinnated leaves, the outer-partial lobes with glands interstinct; and globular, pedunculated spikes.)

14. *MIMOSA latifolia*. Broad-leaved American Acacia. (Without thorns; conjugated-pinnated leaves, the terminal pinnae opposite, and the lateral ones alternate.)

15. *MIMOSA latifolia*. Broad-podded American Acacia. (Without thorns; flexuose branches, doubly pinnated leaves, the wings having five pair of partial lobes, and broad pods.)

16. *MIMOSA purpurea*. Purple American Acacia. (Without thorns; conjugated pinnated leaves, the inner folioles smallest.)

17. *MIMOSA tamarindifolia*. Tamarind-leaved American Acacia. (Prickly; with doubly-pinnated leaves of five pair of wings, having ten pair of partial folioles, common petiole thornless.)

18. *MIMOSA circinalis*. Ring'd-podded American Acacia. (Prickly; with conjugated pinnated leaves, having equal pinnae, and prickly stipulae.)

19. *MIMOSA arborea*. Tree Jamaica Acacia. (Tree-like stem, thornless; smooth doubly-pinnated leaves, halved acute pinnae.)

20. *MIMOSA horrida*. Horrid thorned Indian Acacia. (Stipular spines longer than the leaves; smooth branches; leaves doubly winged, with mostly six pair of partial lobes.)

21. *MIMOSA Lebbeck* (Lebeck.) Monadelphous flower'd Ægyptian Mimosa. (Tree stem, thornless; leaves doubly pinnated of four pair of wings, with oval-oblong pinnae; flowers monadelphous bundled peduncled.)

22. *MIMOSA glauca*. Glauous, or Sea-green American Mimosa. (Unarmed; with leaves doubly pinnated of six pair of partial folioles, with numerous pinnae, glands between.)

Most of these plants merit the attention of the curious, more particularly the Sensitive and Humble Plants, and the Horned Acacias; the shrubby kinds are mostly durable in root and stem, as are also sometimes the Herbaceous

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ous, Sensitive, and Humble Plants, but the Annual kind is but of one year's duration; all of which require to be continued always in the stove; for although they will bear the air about a month or two in the heat of summer, the Sensitive and Humble Plants lose much of their sensibility, if not kept always under glasses in a stove, or will succeed in a glass-case, green-house, or under a garden-frame and glasses in the heat of summer, or even in the full air, in that season; but their sensitive motion is always more rapid in the stove, and sooner recover their proper position.

The singularity of the Sensitive and Humble Plants in closing their leaves and bending their footstalks constantly upon the least touch, astonishes us; for, in consequence of being touched or irritated with the hand, a stick, &c. the wings or folioles of the leaves quickly recede, contract, and close together with surprising facility; and in the Humble kind, the footstalks also at the same instant suddenly bend at the articulation or joints, and the whole leaf hangs downward; but all gradually recover their former position in a short time after, expanding as before.

That on touching the upper leaves smartly of the Humble Plants particularly, they on falling touch those below, and continue falling one after another a considerable time in a singular manner, affording a pleasing observation, highly meriting the attention of the curious.

The leaves recover themselves in from about ten or fifteen minutes, to half an hour, or an hour or more, according to the hour or heat of the day, and that of the stove, &c.

The propagation of all the species is by seed, and some also by layers and cuttings; sow the seed in the spring, in pots of light earth, a quarter of an inch deep, and plunged in a good hot-bed, or in the bark bed in the stove; and when the seedlings are an inch or two or three high, prick them singly in small pots, and plunged as before, giving moderate sprinklings of water.

Layers and cuttings of the Perennial Sensitive, and Humble Plants in particular, sometimes succeed, especially those of a spreading free growth, performed in spring or summer, in pots plunged into the bark-bed, &c.

MUSA.

MUSA. PLANTAIN TREE, or BANANA. (*Polygamia monoecia.*)

Consists of remarkable tree-like herbaceous perennials of India and America, rising with soft herbaceous stems, fifteen or twenty feet high, or more, adorned above with a cluster of very large leaves, one, two, or three yards long, and half a yard broad; and from the centre a large fungous flower-stalk, three or four feet long, terminated by a vast spadix of male, female, and hermaphrodite white flowers, protruded from a deciduous spathe, consisting of numerous ringent corollula, or florets, each forming an upper lip, and a nectarium the lower one; six awl shaped stamina, a long triquetrous germen under the floret, erect style, and the germens become so many very long, three-cornered, cucumber-shaped, fleshy, trilocular, eatable fruit, in exceeding large clusters.

The species are,

1. *MUSA paradisiaca*. Tree of Paradise, or Indian Plantain Tree. (*A nodding spadix of flowers, with the males persistent.*)

2. *MUSA sapientum*. Sapiient Indian Musa, or Banana Tree. (*A nodding spadix of flowers, the males falling off.*)

3. *MUSA Bibai* (*Bibai*) or Great leaved American Musa. (*An erect spadix of flowers, and a permanent spathe.*)

4. *MUSA Trogodytarum* (*Trogodytarum.*) Moluccan Musa. (*An erect spadix, and a deciduous spathe.*)

These singular exotics deserve particular attention of the curious; they grow freely here in our stoves, advance rapidly to a tall stature, expand their vast foliage, produce flowers, and fruit in bunches, which in their native soil attain a considerable growth, weighing thirty or forty pounds, being of a delicious rich flavour.

But the first two species are the chief sorts in the European gardens, and the first sort most of all; which some travellers have supposed, from the prodigious size of the leaves, to be the tree, whose leaves our first parents used for clothing in Paradise. The sacred text, indeed, calls the leaves employed for this purpose, fig leaves; but the fruit of this is also by the most ancient authors called a fig; and its leaves, by reason of their great size and substance, are much more proper for a veil or covering, than those of the common fig-tree.

They

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They are propagated by off-sets and suckers from the root, taken off in spring and summer, planted separate in pots, and plunged into the bark bed.

MYRTUS. MYRTLE TREE. (*Icosandria monogynia*.)

It furnishes for the stove collection some elegant evergreen shrub and tree exotics of an aromatic fragrance, natives of different parts of India and America; growing from six or eight, to twenty or thirty feet high in their native soil; adorned with oval and oblong, stiff, shining leaves, and small whitish pentapetalous flowers in bunches and singly; having five-parted cups, a corolla of five oval petals, twenty or more stamina, an oval germen under the corolla, a single style, and the germen becomes a trilocular, three-seeded berry.

The species of note are,

1. MYRTUS *zeylanica*. Ceylon Fragrant Myrtle. (*Sub-ovate opposite leaves, having short footstalks; and peduncles sustaining many fragrant flowers.*)

2. MYRTUS *Pimenta* (*Pimenta*.) Indian Pimento, or All-Spice Tree. (*Oblong ovate, stiff-shining leaves, placed alternate.*)

3. MYRTUS *dioica*. Dioicous American Myrtle. (*Oblong leaves, and peduncles divided into three-forked panicles of dioecous flowers.*)

4. MYRTUS *brasiliensis* Brazilian ciliated Myrtle. (*Ovate-obtuse opposite leaves, naked peduncles and solitary flowers, with ciliated petals*.)

5. MYRTUS *biflora*. Two flowered Jamaica Myrtle. (*Lanceolate leaves, and each peduncle sustaining two flowers.*)

6. MYRTUS *caryophyllata*. Clove-scented Myrtle of Ceylon. (*Ob-ovate opposite leaves, and peduncles trifid multiflorous.*)

7. MYRTUS *lucida*. Shining-leaved Surinam Myrtle. (*Oblong close-fitting leaves, diminishing and lanceolate at the apex, and peduncles having mostly three flowers.*)

8. MYRTUS *androsæmoides*. Androsæmum like, or Tutsan-leaved Ceylon Myrtle. (*Sub-oval sessile leaves, and trifid peduncles sustaining many flowers.*)

Of the above eight species of *Myrtus*, the first three are the most populous stove kinds in the English gardens, which are very beautiful odoriferous evergreens, the

Pimento

Pimento in particular is an admirable fine aromatic tree, of delightful fragrance, producing, in its native soil, that valuable berry called All-Spice, or Jamaica Pepper.

They are propagated by seed from abroad, and by layers and cuttings of the young shoots, assisted by a bark bed, &c. covering the cuttings close with a hand-glass.

N.

NYCTANTHES. ARABIAN JASMINE. (*Diandria monogynia.*)

It comprehends four or five species of shrubby climbing and upright, very ornamental, floriferous evergreens of India, rising from eight or ten, to twelve or fifteen feet high; adorned with heart-shaped, oval, and lanceolate leaves, and numerous multiparted fragrant white flowers in lateral and terminal clusters, composed of acutely eight-parted cups, a monopetalous, tubulous, salver-shaped corolla, spreading above in eight parts; two stamina, roundish germen, and one style, succeeded by a bilocular, two-seeded berry.

The species are,

1. NYCTANTHES *Sambac* (*Sambac*) or Climbing Arabian Jasmine. (*Heart shaped lower leaves, and the upper ones ovate and acute.*)

Varieties.

Common single-flowered.

Double flowered.

Large double flowered, or Grand Duke of Tuscany's Jasmine.

Variegated leaved.

2. NYCTANTHES *undulata*. Waved leaved Malabar Nyctanthes. (*Cylindric branches, and ovate sharp-pointed waved leaves.*)

3. NYCTANTHES *Arbor tristis* (*Arbor tristis*) or Sorrowful Tree, or Mournful Indian Nyctanthes. (*Tetragonous or four-angled branches, and ovate acute-pointed leaves.*)

4. NYCTANTHES *hirsuta*. Hairy or Shaggy Indian Sorrowful Tree. (*Large ovate leaves, with the footstalks and flower peduncles hairy.*)

5. NYCTAN-

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5. *NYCTANTHES angustifolia*. Narrow-leaved Malabar *Nyctanthus*. (*Obtuse lanceolate-ovalish leaves.*)

These shrubs are ornamental all the year as evergreens, and are very floriferous and fragrant, particularly the *Nyctanthus Sambac* and *undulata*, which are remarkably flowery great part of the year, and the *Arbor tristis*, or Sorrowful Trees, are singular in producing their flowers in the evening, and fade at the approach of morning; all of which are propagated by layers and cuttings, struck in the bark-bed; and by grafting or budding upon common Jasmine stocks.

O.

OLEA. OLIVE TREE.—See the Green-house division, for the general description of this genus.

OLEA odoratissima. Most odorous Chinese Olive Tree.

OMPHALEA (*Omphalea*.) (*Monoecia triandria*.)

A genus comprising two West-Indian shrubs, garnished with large oblong and ovate shining leaves, and terminal clusters of triandrious and diandrious flowers.

The species are,

1. *OMPHALEA triandria*. Triandrious Jamaica *Omphalea*. (*Oblong leaves, and flowers with three stamina.*)

2. *OMPHALEA diandria*. Diandrious Jamaica *Omphalea*. (*Ovate leaves, and diandrious flowers.*)

Propagate them by seed from Jamaica, &c. and by layers and cuttings, assisted by a hot-bed.

OPHIOXYLON (*Ophioxylon*.) (*Polygamia monoecia*.)

Consists of one shrubby serpentarious climber of India, garnished with spear-shape ternate and quaternate leaves, and polygamous flowers, containing male, female, and hermaphrodite, all on the same plant.

The species is,

OPHIOXYLON serpentinum. Serpentinous or Snake-like Ceylon *Ophioxylon*.

It is propagated by layers, cuttings, and seed, forwarded in a bark-bed.

OXALIS. WOOD SORREL. (*Decandria pentagynia*.)

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For the stove is one low undershrubby exotic of South-America, furnished with trifoliate leaves, and bunches of yellow flowers, with acutely five-parted cups, a monopetalous, deeply five-parted corolla, ten stamina, a pentangular germen, five styles, succeeded by pentangular capsules, with roundish seeds.

The species is,

OXALIS frutescens. Shrubby American Wood Sorrel. (*Shrubby erect stem, ternate, ovate-lobed leaves, the middle lobe footstalked; and yellow flowers in umbels.*)

It is propagated by seeds, sowed in the spring in a hot-bed.

See also the Green-house *Oxalis*, which are likewise sometimes introduced in the Hot-house collection.

P.

PANCRATIUM. PANCRATIUM LILY, or SEA DAF-
FODIL. (*Hexandria monogynia.*)

Consists of herbaceous, bulbous-rooted, beautiful, flowery perennials of Asia and South-America; having large roundish and oval bulbous roots, sending up long leaves, some narrow, others very broad, and erect firm flowerstalks, from one or two, to three feet high, terminated by an oblong spathe or sheath, protruding some but one, others two, and many liliaceous white fragrant flowers of six petals, and a central funnel-shaped, ten or twelve parted nectarium, six stamina, trigonal germen under the corolla, long styl, and a roundish trigonous, trilocular capsule, with globular seeds.

The tender species are,

1. *PANCRATIUM zeylanicum*. Ceylon Uniflorous Pancrati-
um. (*Narrow erect leaves, the spathe producing but one flower, having reflexed petals.*)

2. *PANCRATIUM mexicanum*. Mexican Biflorous Pan-
crati-um. (*Broad leaves, and the spathe producing two flowers.*)

3. *PANCRATIUM caribæum*. Caribee Multiflorous Pan-
crati-um. (*Spear-shape leaves, and the spathe pro-
ducing many flowers.*)

4. PAN-

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4. *PANCRATIUM carolinianum*. Carolina many-flowered Pancratium. (*Narrow linear leaves, the spathe producing many flowers.*)

5. *PANCRATIUM amboinense*. Amboyna ovate-leaved Pancratium. (*Ovate nervose petiolated leaves, and the spathe having many flowers.*)

These plants producing flowers of exceeding beauty and elegance, imparting a delightful fragrance, should be admitted in all eminent stove collections; procuring the roots when their leaves decay, plant them singly in pots of light rich earth, and plunged into the bark-bed, where they will propagate in tolerable abundance by offsets of the root.

PARKINSONIA (*Parkinsenia*.) (*Decandria monogynia*.)

An eminent flowery tree of the West-Indies, garnished with minute winged-like leaves, arranged along one common petiole, and long bunches of odoriferous yellow flowers; having monophyllous quinquedentate cups; five oval and reniform petals; ten stamina, cylindric germen, scarcely any style, crowned by an obtuse stigma, and the germen becomes a long swelling-jointed pod, with oblong seeds.

The species is,

PARKINSONIA aculeata. Prickly American Parkinsonia.

It is propagated by seeds, sowed in the spring in pots, and plunged into the bark-bed, &c.

PASSIFLORA. PASSION FLOWER. (*Gynandria pentandria*.)

Furnishes for the stove several curious shrubby and herbaceous climbing and trailing exotics from America and India, &c. rising with long slender stems, mounting by support many feet high; garnished, some with bilobate, trilobate, and others with undivided leaves, mostly attended by cirrhi, or twining clasps, and large white and purple flowers, singly and in clusters; composed of a three-lobed involucre, five-leaved cup, five spear shaped obtuse petals, surrounding a nectarium formed of many fibrous circular rays, and a triple coronet round the pistilum; five awl-shaped gynandrious filaments, an erect column, elevating the roundish germen, supporting three styles.

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styles, and the germen becomes an oval, fleshy, coloured, unilocular fruit, with oval seeds.

The species are,

1. *PASSIFLORA vespertilio*. Bat's-wing-leaved American Passion Flower. (Two lobed leaves, roundish, glandular at the base, with the lobes acute divaricated wide asunder.)
2. *PASSIFLORA holsericea*. Velvety or Silky-leaved Veracrucian Passion Flower. (Three-lobed, downy, silky leaves, the base indented and reflexed.)
3. *PASSIFLORA laurifolia*. Bay-leaved Surinam Passiflora. (Ovate, undivided, intire leaves, with two glands on the footstalks, involucrum toothed.)
4. *PASSIFLORA ferratifolia*. Sawed-leaved Surinam Passiflora. (Oblong-lanceolated, undivided, sawed leaves.)
5. *PASSIFLORA maliformis*. Apple-shape-fruited Dominica Passiflora. (Undivided, heart-shaped oblong intire leaves, petioles two glanded, involucrum intire.)
6. *PASSIFLORA quadrangularis*. Quadrangular stalked Jamaica Passiflora. (Four square, membranous stalks, and undivided almost heart-shaped intire leaves, petioles six-glanded.)
7. *PASSIFLORA suberosa*. Cork-barked Dominica Passiflora. (Fungus cork-barked stalks, and three-lobed, sub-target form leaves.)
8. *PASSIFLORA Murucuja* (*Murucuja*) or Lunated, or Moon-leaved Dominica Passiflora. (Leaves two-lobed, obtuse, the base undivided, and a monophyllous nectaria.)
9. *PASSIFLORA rubra*. Red Jamaica Passiflora. (Two-lobed, heart-shaped, acuminate leaves.)
10. *PASSIFLORA multiflora*. Multiflorous Dominica Passiflora. (Undivided, oblong, intire leaves, and many flowers crowded.)
11. *PASSIFLORA minima*. Least, or Small-flowered Passiflora of Curassao. (Three-lobed intire leaves, with lanceolate lobes, the intermediate lobe produced.)
12. *PASSIFLORA digitata*. Digitated Hand-shape Martinican Passiflora. (Palmated serrated leaves.)
13. *PASSIFLORA rotundifolia*. Round leaved American Passion Flower. (Leaves sub-three-lobed, obtuse roundish.)

These plants are desirable furniture for large stoves, placing tall firm stakes for their support; they will flower annually, and afford a delightful variety; all of which

are

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are easily propagated by layers and cuttings struck in the bark-bed; also by seed, assisted in the same manner.

PENTAPETES (*Pentapetes*.) INDIAN VERVAIN MALLOW. (*Monadelphia dodecandria*.)

A genus of malvaceous exotics, consisting of one or two beautiful scarlet flowering herbaceous plants, and a shrubby exotic, natives of India; growing two or three feet high in the herbaceous kind, the other is of larger growth; garnished with halbert shape, oval and heart-shape leaves, and large spreaded ornamental scarlet and white flowers composed of a three-leaved outer cup, and a monophylloous quinquefid inner one; five obtuse spreading petals, twelve to nineteen monadelphous columnar stamina, a round germen, and cylindric style, succeeded in the germen by an oval quinquelocular capsule, filled with oblong seeds.

The species are,

1. PENTAPETES *phœnicea*. Scarlet Indian Pentapetes. (*Herbaceous stalks, halbert shape-lanceolate serrated leaves, and large scarlet flowers, singly along the sides of the stalk.*)

2. PENTAPETES *suberifolia*. Cork-tree-leaved Indian Pentapetes. (*Shrubby stalk, ovate repand angular leaves, and white flowers.*)

3. PENTAPETES *acerifolia*. Maple-tree-leaved Indian Pentapetes. (*Heart shaped repand angulated leaves.*)

These are ornamental flowery plants, but particularly the first species, an annual, and the principal sort in the English gardens, where it flowers beautifully in succession from July till September or October; ripening seeds, by which it may be easily raised in the spring by the assistance of an hot-bed; as may also the other two species.

PETIVERIA. GUINEA HEN-WEED. (*Hexandria tetragynia*.)

Comprehends two ligneous evergreen perennials from the West-Indies, growing with ligneous, jointed stalks, two or three feet high, furnished with oblong leaves, and terminal spikes of small white flowers, having five-leaved cups, four cruciform petals, six or eight stamina, oblong germen, and four styles, succeeded by a short taper seed vessel with one seed.

The species are,

1. PETIVERIA *alliacea*. Garlick-scented Jamaica Petiveria. (*Oblong ovate leaves, and flowers having six stamina, or male organs.*)

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2. *PETIVERIA octandra*. Octandrous-flowered American Petiveria. (*Oblong stiff leaves, and flowers having eight stamina, or male organs.*)

Both the species are remarkable for their alliaceous or garlicky smell; are retained here to diversify large stove collections, as evergreens and flowery plants; and are propagated by seeds, slips, and cuttings.

PHŒNIX. GREAT PALM, or DATE TREE. (*Palma pennatifolia, and Dioecia triandria.*)

A palmaceous tree of India, growing with an upright, straight branchless trunk, from fifty or sixty to an hundred feet high, terminated at top by a vast cluster of branch-like pinnated leaves, eight or nine feet long, and a long, branching spadix of white flowers, male and female on separate plants; protruded from a general spathe, each floret having three petals, six-parted in the females; three stamina in the males; and in the females, a round germen, and awl-shaped style, and the germen becomes an oval, olive-shaped, unilocular fruit, containing an oval nut.

The species is,

PHŒNIX dactylifera. Date-bearing Palm, or Indian Date Tree. (*Frondose pinnated leaves, composed of long sword-shape complicated folioles*)

Varieties.

Male Date Tree, producing male flowers only.

Female Date Tree, producing the female flowers and fruit.

This famous Palm is of great estimation in its native soil, Asia and Africa, &c. for its fruit, which are the Dates of the shops, being the produce of the female plant, growing in large spiral clusters; is introduced in our stoves for variety, and the curious singularity of its growth and foliage; and is propagated by seed from abroad, sowed in pots, and plunged in a bark-bed.

PHYLLANTHUS. SEA-SIDE LAUREL. (*Monoecia triandria.*)

A genus, of which some evergreen tree, shrub, and herbaceous kinds of America and Asia are introduced in our stoves for variety and ornament; growing eight or ten feet high, furnished with beautiful large oval, lanceolate, and pinnated, floriferous leaves, and male and female flowers; having bell-shaped, six-parted, spreading, coloured cups, no petals, three stamina, a roundish germen, and
three

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three styles, succeeded by a roundish trilocular capsule, with three roundish seeds.

The noted species are,

1. *PHYLLANTHUS grandifolia*. Great-leaved American Phyllanthus. (*Tree-like stem, and large ovate obtuse entire leaves.*)

2. *PHYLLANTHUS Epiphyllanthus* (*Epiphyllanthus*) or Floriferous-leaved American Phyllanthus. (*Large lanceolate serrated shining leaves, bearing flowers in the crenatures on the edges.*)

3. *PHYLLANTHUS Emblica* (*Emblica*) or Pinnated floriferous-leaved Indian Phyllanthus. (*Tree-like stem, pinnated leaves bearing flowers, and berry-like fruit.*)

4. *PHYLLANTHUS maderaspatensis*. Maderaspatanian wedge-shape-leaved Phyllanthus. (*Winged leaves, having wedge-shape, pointed, alternate folioles.*)

5. *PHYLLANTHUS Niruri* (*Niruri*) or Upright herbaceous Phyllanthus. (*Stem herbaceous erect; leaves pinnated, flower-bearing; flowers peduncled.*)

They effect a fine variety in their different foliage; and the floriferous-leaved kinds exhibit a singular beautiful appearance; and are all propagated by seeds from abroad, sowed, as soon as they arrive, in pots of light earth, and plunged in a hot-bed, &c. try also layers and cuttings of the young shoots.

PHYSALIS. WINTER CHERRY. (*Pentandria monogynia.*)

Comprehends for the stove shrubby and tree-like exotics, natives of South America, &c. growing from two or three, to eight or ten feet high; ornamented with oval downy and hairy leaves, and rotated yellow flowers, with purple bottoms; having pentangular, quinquefid, persistent cups, a monopetalous, wheel-shape, plicated, quinquefid corolla, five stamina, roundish germen, and one style, succeeded in the germen by a roundish cherry-shaped, many-seeded berry, lodged in the persistent swollen, pentagonous calix, opening at top, and discovers the fruit very ornamentally in autumn.

The species are,

1. *PHYSALIS curassavica*. Shrubby Winter Cherry of Curassao. (*Shrubby stem, and ovate downy leaves.*)

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2. *PHYSALIS arborescens*. Tree-like Campeachy Winter Cherry. (*Tree-like shrubby stem, ovate hairy leaves, and sub-solitary flowers, with revolute corolla.*)

3. *PHYSALIS flexuosa*. Flexuose Indian Winter Cherry. (*Shrubby stem, flexuose branches, oblong leaves, and flowers in clusters.*)

They exhibit a curious variety in their cherry-shaped fruit in autumn and winter; and are propagated by seed and cuttings in spring, by the assistance of a hot-bed.—The first sort also by off-sets from the root.

PHYTOLACCA. AMERICAN NIGHTSHADE. (*Decandria decagynia.*)

It consists of two shrubby and herbaceous perennials, ornamented with large ovate, and ovate spear-shape leaves, and clusters of purple and white flowers, having no cups, five roundish, concave, spreading, coloured petals, ten, eight, or twenty stamina, an orbicular germen, terminated by ten stigmas, and succeeded by an orbicular, ten-furrowed, decemlocular berry, with the like number of reniform seeds.

The species are,

1. *PHYTOLACCA dioica*. Dioicous-flowered American Nightshade. (*Shrubby stem, large ovate leaves, and dioicous flowers, or male and female on distinct plants.*)

2. *PHYTOLACCA octandra*. Octandrious-flowered Mexican Phytolacca. (*Herbaceous stalks, ovate-lanceolate leaves, and flowers having but eight stamina, and eight styles.*)

3. *PHYTOLACCA icofandra*. Icosandrious Malabarian Phytolacca. (*Herbaceous stalks, long spear-shape leaves; and flowers having twenty or more stamina, and ten styles.*)

They demand admittance in all eminent collections, particularly the first sort, which assumes a large shrub-like growth, with ample foliage; the others grow two or three feet high; and are propagated, the shrubby kind by cuttings and seed, and the two herbaceous sorts principally by seed only, or sometimes by cuttings and off-sets; giving the whole the assistance of a hot-bed.

PIPER. PEPPER. (*Diandria trigynia.*)

Consists of herbaceous and shrubby perennials of the West and East-Indies, growing from one foot, to five, ten, or twelve feet high, furnished with ovate, oblong, and heart-shaped, and lanceolate-oval leaves, and terminal

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nal and lateral spikes of small flowers without petals, and no stamina, only two roundish anthera, a large oval germen, crowned by a triple style or stigma, and succeeded by a roundish unilocular berry with one seed.

The noted species in the English gardens are,

1. *PIPER obtusifolium*. Obtuse fleshy-leaved American Pepper Plant. (*Low herbaceous, succulent stalks, and ob-ovate thick fleshy nerveless leaves*.)

2. *PIPER reticulatum*. Netted-leaved American Pepper Plant. (*Heart-shaped, seven-nerved netted leaves.*)

3. *PIPER Amalago* (*Amalago*) or Jamaica Pepper Plant. (*Lanceolate-ovate, five-nerved wrinkled leaves.*)

4. *PIPER Siriboa* (*Siriboa*.) Indian Siriboa. (*Heart-shaped, almost seven-nerved, veined leaves.*)

5. *PIPER aduncum*. Hooked-spiked Jamaica Pepper Plant. (*Ovate lanceolate leaves, with alternate nerves, and recurved hooked spikes.*)

6. *PIPER nigrum*. Black Indian Pepper. (*Ovate smooth, almost-seven-nerved leaves, with simple foot-stalks.*)

7. *PIPER decumanum*. Large, Plantain-leaved Indian Pepper. (*Heart-shaped, nine nerved netted leaves.*)

8. *PIPER peltatum*. Target-leaved Indian Pepper. (*Target-shape orbicular, heart-form obtuse-scolloped leaves, and umbellate spikes.*)

9. *PIPER longum*. Long Indian Pepper. (*Heart-shaped, petiolated and sessile.*)

They are retained in curious collections, to encrease the variety; the first three sorts the most commonly known, of which the first is a diminutive plant, all the others are of considerably larger growth, and may be all propagated by seeds procured from abroad, and raised in a hot-bed; the first also by its rooting stalks: try likewise the rest by cuttings and layers, by means of the bark bed.

PISCIDIA (*Piscidia*.) JAMAICA DOGWOOD TREE (*Diadelphina decandria*.)

Is composed of two South-American trees, furnished with winged, opposite leaves of several pairs of oval folioles, terminated by an odd one, and papilionaceous whitish flowers, having quinquedentate cups, an emarginated rising standard, two oblong wings, and moon-shaped keel, ten diadelphous stamina, a linear germe

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and rising style, succeeded by a narrow, four-bordered, jointed, unilocular pod, with cylindric seeds.

The species are,

1. *PISCIDIA Erythrina* (*Erythrina pinnatis*.) Pinnated, Ash-leaved Coral Tree, or Jamaica Dogwood. (*Pinnated leaves, with ovate folioles*.)

2. *PISCIDIA carthaginensis*. Carthagen American Piscidia. (*Pinnated leaves, with ob-ovate folioles*.)

They are admitted in the stove collections for variety; and are propagated by seed from the West-Indies, sowed in pots, and plunged in a hot-bed, or the bark-bed in the stove.

PISONIA (*Pisonia*) or *FINGRIGO*. (*Polygamia dioecia*.)

Consists of two moderate tree and shrub species of the West and East Indies, &c. branching by opposite pairs, garnished with smallish obverse-ovate, rigid leaves, and small bunches of yellowish flowers, hermaphrodite, and male or female, on separate plants; having acutely-five-parted cups, tubulous, funnel-shaped, quinquefid corolla, five stamina, oval germen, and one style, crowned by five spreading stigmas, succeeded by a pentangular, unilocular capsule, with one oval seed.

The species are,

1. *PISONIA aculeata*. Prickly American *Pisonia*, or West-Indian *Fingrigo*. (*Spreading spines at the axillas, or angles of the branches*.)

2. *PISONIA mitis*. Mild or Smooth Indian *Pisonia*. (*Branches without spines*.)

Of each species there are male and female plants, all of which are raised from seeds, &c. by the assistance either of the bark-bed or the stove, &c. or any other hot-bed, in the spring.

PLUMBAGO. *LEADWORT*. (*Pentandria monogynia*.)

It furnishes two or three slender shrubby exotics for the stove, inhabitants of India and America; consisting of two upright species three or four feet high, and one of climbing growth; ornamented with oval leaves, and terminal spikes of white and red flowers, composed of tubular pentagonal, quinque-dentate cups, a tubulous funnel-shaped corolla of five oval spreading segments, five stamina, oval germen, one style, crowned by a five-cleft stigma,

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stigma, and succeeded by a single oblong-oval seed resting in the persistent calyx.

The species are,

1. *PLUMBAGO zeylanica*. Ceylon Filiform Plumbago. (*Thread-form slender stalks, and petioled, ovate smooth leaves.*)

2. *PLUMBAGO rosea*. Rose Indian Plumbago. (*Stems with gibbous or swelling joints, and petioled, ovate smooth somewhat indented leaves, and red flowers.*)

3. *PLUMBAGO scandens*. Climbing American Plumbago. (*Flexuose climbing stalks, and petioled, ovate smooth leaves.*)

They are desirable furniture for adorning the stove as flowery plants, appearing very floriferous great part of the year, and are propagated by seed in a hot-bed; likewise make trial of slips, cuttings, and layers, by the like assistance.

PLUMERIA (*Plumeria*.) RED JASMINE, &c. (*Pentandria monogynia*.)

Consists of three or four shrubby succulent, ornamental flowering exotics from the West-Indies, &c. rising with woody thick succulent branchy stems, from five or ten, to fifteen or twenty feet high; garnished with oval-oblong, and spear-shaped succulent leaves, and most beautiful funnel-shaped, red and white flowers, terminating the branches in large clusters; having small quinquefid cups, a monopetalous tubular, funnel-shaped corolla, widening above in five oval spreading segments, five awl-shaped stamina, oblong bifid germen, crowned by a double stigma, and succeeded by two long, bellied, nutant, unilocular reflected pods, with numerous oblong imbricated seeds.

The species are,

1. *PLUMERIA rubra*. Red-flowered Jamaica Plumeria. (*Ovate-oblong leaves, with the foot-stalks having two glands*)

2. *PLUMERIA alba*. White-flowered Jamaica Plumeria. (*Spear-shaped revolute leaves, and flower peduncles having tuberos swellings above.*)

3. *PLUMERIA obtusa*. Obtuse-leaved American Plumeria. (*Spear-shaped obtuse leaves, having foot-stalks.*)

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4. *PLUMERIA pudica*. Modest, or closed-flowered *Plumeria*. (*Flowers closed at the border.*)

They claim admittance in our stoves for variety and ornament, having singular beauty in their stems and leaves, and they flower with great beauty and elegance, six or eight weeks in summer, diffusing a sweet fragrance, and may be propagated by seeds and cuttings, vegetated in a hot-bed, or in the bark-bed, in the stove, &c.

POINCIANA. BARBADOES FLOWER-FENCE. (*Decandria monogynia.*)

A genus of beautiful pinnated-leaved, ornamental flowering shrubs from the East and West-Indies; growing with upright shrubby stems, from five or six, to eight or ten or fifteen feet high, dividing into branchy spreading heads, adorned with decompound, or doubly winged leaves of numerous foliola, and the branches terminated by long spikes of elegant pentapetalous golden yellow flowers, composed of five-leaved deciduous cups, five roundish petals, one of them large and deformed; ten very long inclining stamina, awl-shaped germen, and long style, succeeded by an oblong broad compressed pod, with many plane ovalish seeds.

The species are,

1. *POINCIANA pulcherrima*. Most beautiful Poinciana, or double spined Barbadoes Flower-fence. (*Armed with spines by pairs; and pinnated leaves having oblong-obtuse folioles, and large spikes of beautiful golden yellow variegated flowers.*)

2. *POINCIANA bijuga*. Bijugated-leaved, or single-spined Indian Poinciana. (*Armed with spines singly, and pinnated leaves having roundish folioles, emarginated or end-notched.*)

3. *POINCIANA elata*. Lofty spineless Poinciana. (*Without spines, and pinnated leaves having oval-oblong entire folioles.*)

These shrubs are admired for their beautiful pinnated foliage and most elegant flowers, coming out in large loose spikes in autumn, imparting a fragrant odour; and the plants are easily raised from seed, received from the West-Indies, sowed in the spring in pots, plunged in a hot-bed, or in the bark-bed of the hot-house.

POLEMONIUM. [GREEK VALERIAN.] Red Ipomoea. (*Pentandria monogynia*.)

Furnishes one tender herbaceous perennial exotic of America, for the hot-house; rising with upright stalks, pinnated leaves, and funnel-form flowers, with five stamina and one style, crowned by a globe-headed stigma, succeeded by trilocular seed capsules.

The species is,

POLEMONIUM *rubrum*. (*Ipomoea rubra*.) Red Carolina Polemonium, or Red Ipomoea—It, by late botanic improvements, being removed to the genus *Ipomoea*, but by mistake omitted inserting it therein. (*Leaves pinnated, linear; with flowers produced in a racemus, and peduncled.*)

This being an ornamental-flowering tender perennial, demands a place in this division. Plant it in pots of good earth, and it may be increased by seed, slips and off-sets of the root, and cuttings of the stalk, assisting each by plunging the pots thereof in the bark-bed.

POLYANTHES. TUBEROSE, or INDIAN HYACINTH. (*Hexandria monogynia*.)

A most beautiful herbaceous flowery perennial, of the liliaceous tribe, a native of India; consisting of a large oblong-bulb-like tuberous, white root, sending up several long narrow leaves, and an upright slender stalk, three feet high, terminated by a long spike of many liliaceous, hyacinth-like, six-parted white flowers, exceedingly beautiful and odoriferous; having no cups, a monopetalous, long tubulous, funnel-shaped incurved corolla, six-parted above; six stamina, a roundish germen with one style, crowned by a thick trifid stigma, and succeeded by a trigonal, trilocular capsule, containing many seeds.

The species is,

POLYANTHES *tuberosa*. Tuberous Indian Hyacinth, commonly called Tuberose.

Varieties.

Common single-flowered.

Double-flowered.

Dwarf-stalked.

Variegated-leaved.

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This beautiful flowering plant demands universal estimation for the singular elegance and fragrance of its flowers, which may be blowed in high perfection in the hot house, &c. planting the roots singly in pots of light rich earth, in March, April, May, and June, &c. thereby to have a long succession, plunging them in the bark-bed; give moderate waterings, and they will shoot up, and flower beautifully in summer and autumn; and may be propagated by off-sets when their stalks and leaves decay, planted in pots, and in one or two years will produce flowers.

Great quantities of blowing roots are annually imported from Italy, &c. by the seedsmen, where they may be obtained in the spring, and will flower in perfection the same year.

POLYPODIUM. POLYPODY FERN. (*Cryptogamia filices.*)

A genus of plants of the Fern tribe, consisting of above sixty species, some of which are admitted in the stove collections for variety; have creeping roots, frondose stalks, formed of the middle rib of the leaves, or of the union of that and the stalk together; with leaves both pinnated and simple in the different species; and on the backs of which the fructification, or almost invisible flowers are produced, in roundish spots, not sufficiently perfect to sight to distinguish their nature, as is the case in most of the Fern kinds.

The tender species of note are,

1. **POLYPODIUM aureum.** Golden Polypody. (*Frondose pinnatifid smooth leaves, with oblong pinnæ placed distant, the lowest ones spreading, the terminate ones large, and the fructification placed in a row.*)

2. **POLYPODIUM auriculatum.** Aurited, or ear-shaped Indian Polypody. (*Frondose pinnatifid leaves, having lanceolate-fickled serrated pinnæ, and with the lowest base truncated and ear-shaped.*)

3. **POLYPODIUM Barometis** (*Barometis.*) or Chinese Fern. (*Frondose, doubly pinnated leaves, with pinnatifid, lanceolate, serrated pinnæ, woolly at the root.*)

4. **POLYPODIUM pubescens.** Downy Jamaica Polypody. (*Frondose, doubly pinnated, hairy downy leaves, with lanceolate-*

ovate somewhat cut, acute pinnae, the outermost ones confluent.)

5. *POLYPODIUM horridum*. Horrid American Polypody. (Prickly stalk, supra-decompound leaves, with half arrow-shaped pinnae, connected at the base, and jawed at the apex.)

6. *POLYPODIUM trifurcatum*. Three-forked Jamaica Polypody. (Frondose, spear shaped, sinuated, smooth leaves, three-forked at the apex.)

7. *POLYPODIUM crassifolium*. Thick-leaved American Polypody. (Frondose, lanceolate, smooth, intire leaves, having the fructifications in a row.)

8. *POLYPODIUM comosum*. Tufted American Polypody. (Frondose, lanceolate, smooth, intire leaves, multifid and tufted at top, and scattered fructifications.)

9. *POLYPODIUM crispatum*. Curled-leaved American Polypody. (Frondose, pinnatifid, smooth leaves, with semi-circular, crenated lobes.)

10. *POLYPODIUM pectinatum*. Pectinated or comb-leaved Jamaica Polypody. (Frondose, pinnated, lanceolate leaves, with sword shaped, approximated, parallel, horizontal, acute lobes, and naked root.)

11. *POLYPODIUM arboreum*. Tree-like American Polypody. (Tree like, smooth stalk, and frondose, doubly-pinnated, serrated leaves.)

12. *POLYPODIUM spinosum*. Spinose Tree-like American Polypody. (Tree-like prickly stalk, and frondose, bipinnated, serrated leaves.)

Several of these plants are retained in stove collections for variety and observation; and as most of them have creeping roots that strike into whatever body they can lay hold of, whether earth, stone, trees, &c. they are propagated by slips and off-sets thereof in the spring.

PORTLANDIA (*Portlandia*.) (*Pentandria monogynia*).

Consists of West-Indian shrubs, having large, oval and oblong opposite, shining leaves, and large beautiful clubbed-funnel-shaped flowers with five stamina, and one style, and a five-cornered retuse many-feeded capsule, crowned with the five-leaved calyx.

The species are,

1. *PORTLANDIA grandiflora*. Great-flowered Jamaica Portlandia. (Ovate shining leaves, and largest flowers, with five male organs.)
2. *PORTLANDIA hexandria*. Hexandrous, or six-male Portlandia. (Leaves ovate, equal at the base, flowers with six male organs.)
3. *PORTLANDIA tetandra*. Tetandrous or four-male Portlandia. (Leaves oblong obtuse, stipula broad; and flowers with four male organs.)

These elegant plants may be propagated by seeds from abroad; and try also layers and cuttings in the bark-bed.

PORTULACA. PURSLANE. (*Dodecandria monogynia*.) Consists of tender shrubby, undershrubby, and herbaceous exotics of the hot parts of Africa and America, mostly of moderate growth, adorned with ovate, lance-ovate, and elliptic leaves, gibbous and plane; and racemes and panicles of flowers, having a two-parted calyx, five petals, twelve to nineteen stamina, and one style, succeeded by trivalved unilocular capsules with seeds.

The species for this division are,

1. *PORTULACA Anacampseros*. (*Anacampseros foliis ovatis convexis*.) Convex Anacampseros, or gibbous-leaved shrubby African Purslane. (Shrubby stem, ovate gibbous leaves, peduncles many-flowered.)
2. *PORTULACA paniculata*. Panicle flowering American Purslane. (Ovate plane leaves, and paniced racemes of white flowers.)
3. *PORTULACA patens*. Spreading American Purslane. (Lance-ovate plane leaves; a branchy panicle, and two-leaved calyx.)
4. *PORTULACA fruticosa*. Shrubby five leave-cupped Purslane. (Shrubby stem, ob-ovate planeish leaves; peduncles racemous flowering, calyx five-leaved.)
5. *PORTULACA meridiana*. Meridian elliptic-leaved Purslane. (Leaves elliptic, fleshy plane, knots hairy, and terminal sessile flowers.)

These will effect an agreeable variety in the stove all the year round; plant each sort separate, in pots of light earth, and may be increased by cuttings, slips off-sets, seed, &c.

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PSIDIUM. GUAVA TREE. (*Icosandria monogynia*.)

A genus composed of three moderate tree kinds of the East and West-Indies, growing twenty feet high, furnished with oval-obtuse, and oblong pointed leaves, and large pentapetalous white flowers, singly and by threes; having campanulated five-parted cups, five large oval spreading petals, twenty or more stamina, a roundish germen under the calyx, large style, and the germen becomes a large oval baccated one-celled fruit, including numerous seeds.

The species are,

1. *PSIDIUM pyrifera*. Pear-fruited Indian Guava Tree. (*Lineated ovate obtuse leaves, and peduncles having one flower.*)

2. *PSIDIUM pomifera*. Apple-fruited Indian Guava. (*Lineated oblong, sharp-pointed leaves, and peduncles having three flowers*)

3. *PSIDIUM decaspermum*. Ten-seeded Psidium. (*Leaves ovate, pointed, plane; and peduncles, one flowered, bracteated*)

They are introduced in our stove collections for variety, where they flower and produce fruit; and may be raised from seeds obtained from abroad, and sowed in pots plunged into a hot-bed; also by layers, cuttings, &c.

PSYCHOTRIA. (*Psychotria*.) (*Pentandria monogynia*.)

Comprises shrubby and herbaceous exotics, natives of the West and East-Indies, garnished with ovate and heart-shaped leaves, and flowers having quinque-dentate cups, tubular corolla, five stamina and one style, succeeded by globular two seeded berries.

The species are,

1. *PSYCHOTRIA asiatica*. Asiatic shrubby Psychotria of Jamaica and the East-Indies. (*Stem shrubby, lance-ovate leaves; stipula end notched.*)

2. *PSYCHOTRIA serpens*. Serpenated creeping Psychotria. (*Stem somewhat under shrubby creeping; with leaves, ovate acute at both ends.*)

3. *PSYCHOTRIA herbacea*. Herbaceous Indian Psychotria. (*Stem herbaceous creeping, leaves heart-shaped pointed.*)

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These species are proper furniture to diversify the stove collection; plant them in pots of good light earth in the stove, and may propagate them by seed, cuttings, layers, and by suckers and off-sets of the root; each method assisted by the bark-bed.

PTERIS. BRAKES, or FEMALE FERN. (*Cryptogamia filices.*)

A genus comprising many species of Fern, some of which, natives of the West-Indies, are admitted for variety in our stove collections; rising with frondose stalks and leaves, formed by the union of the leaf and stem together; the leaves being decomposed, pinnated, and simple in the different species, and numerous minute flowers disposed on the surface of the leaves, not sufficiently visible for description.

The most remarkable tender species are,

1. *PTERIS caudata*. Caudated or Tailed Jamaica Fern. (*Frondose super-decompound branching leaves, with linear pinnae, the lowest pinnate-dented at the base; and with the terminal ones very long.*)

2. *PTERIS lineata*. Lineated-leaved St. Domingo Fern. (*Frondose simple, linear, long, narrow entire leaves, longitudinally fructifcant.*)

3. *PTERIS granatfolia*. Great-leaved Dominica Fern. (*Frondose pinnated leaves, with ovate-linear opposite pointed entire pinnae.*)

4. *PTERIS longifolia*. Long-leaved Dominica Fern. (*Frondose pinnated leaves, with linear scalloped pinnae, heart-shaped at the base.*)

5. *PTERIS mutilata*. Mutilated Jamaica Fern. (*Frondose decomposed leaves, with pinnated folioles, and the lower ones half pinnatifid, the terminal ones longest at the base.*)

6. *PTERIS trichomanoides*. Trichomane-like, Jamaica Fern. (*Frondose pinnated leaves, with sub-oval obtuse, scalloped pinnae.*)

7. *PTERIS pedata*. Pedated or Foot-shaped Jamaica Fern. (*Frondose, five angular, trifoliate leaves, with pinnatifid pinnae, lateral ones two-parted.*)

8. *PTERIS lanceolata*. Lanceolate-leaved St. Domingo Fern. (*Frondose, simple, spear-shaped, subangular, smooth leaves, the apex fructifcant.*)

9. *PTERIS heterophylla*. Heterophyllous, or various-leaved Jamaica Fern. (*Frondose-bipinnated leaves, with oval-oblong serrated obtuse pinnæ, fertile intire.*)

A few only of these plants are introduced here from abroad, to diversify our tender exotic collections; in which they may be propagated by slipping the root offsets.

R.

RANDIA (*Randia*.) (*Pentandria monogynia*.)

A genus containing two evergreen shrubs of America, growing eight or ten feet high, branching by opposite pairs, alternately crossing; garnished with small oval and roundish, thick opposite leaves, and small funnel-shaped, white flowers; having monophyllous, five-lobed permanent cups, a tubulous, funnel-shaped corolla, cut in five above, five stamina, an oval germen, bifid style, crowned with two stigmas, and the germen becomes an oval, unilocular, capsular berry, including many compressed, cartilaginous seeds.

The species are,

1. *RANDIA mitis*. Mild or Smooth American Randia. (*Smooth, or almost thornless branches, and ovalish thick leaves.*)

2. *RANDIA aculeata*. Prickly Jamaica Randia. (*Branches armed with spines in pairs, and roundish shining leaves.*)

They effect an ornamental variety all the year as evergreens, and produce flowers in summer, and are propagated by seeds, sowed in the spring, in pots plunged in the bark-bed, &c. cuttings and layers of the young shoots may also be tried.

RAUVOLFIA (*Rauvolfia*.) (*Pentandria monogynia*.)

Consists of two South-American shrubby berry-bearing plants, rising with several ligneous stems, six or eight feet high; adorned with oblong shining and downy leaves, generally in fours, in a verticillus round the branches, and funnel-shaped lateral flowers, formed of five-parted permanent cups, a tubulous corolla, globular at the base, cut in five at the brim; five stamina, round-

ish germen, and one style, succeeded in the germen by a small globular, bilocular berry, with two seeds.

The species are,

1. *RAUVOLFIA nitida*. Shining narrow-leaved American Rauvolfia. (*Most smooth, very glossy; with oblong narrow smooth leaves by fours.*)

2. *RAUVOLFIA canescens*. Hoary broad-leaved Jamaica Rauvolfia. (*Somewhat hoary; with oblong broader; somewhat-hairy leaves by fours.*)

3. *RAUVOLFIA tomentosa*. Downy Rauvolfia.

They form a distinguishable variety in their verticillate foliage, as well as in their flowers appearing great part of summer, succeeded by ripe berries, by which the plants may be raised, sowed in autumn, or early in spring in pots, plunged in a bark-bed; also by cuttings and layers in spring and summer, struck by the like assistance.

RIVINIA (Rivinia.) (Tetrandria monogynia.)

It furnishes three shrub-like berry-bearing exotics from the hot parts of America; of upright and climbing growth, from three or four, to six or eight feet high, or double that in the climber; garnished with large ovate-heart-shaped, and oval spear-shaped leaves, and four-leaved white and red flowers, in very long lateral and terminal clusters; having calyx-like petals, or cups formed of four oblong-oval, coloured leaves; four long stamina, and sometimes eight or twelve; with a large roundish germen, and a short style, succeeded in the germen by a roundish unilocular berry, including one roundish seed.

The species are,

1. *RIVINIA humilis*. Dwarf tetrandrous Jamaica Rivinia. (*Tetrandrous flowers, or having but four stamina, and ovate-bearded leaves and simple racemus of flowers.*)

Varieties.

(*canescens.*) Downy white-leaved tetrandrous Rivinia.

———— White-flowered.

———— Scarlet flowered.

2. *RIVINIA octandra*. Octandrous American Rivinia. (*Octandrous flowers, or having mostly eight stamina, and sometimes twelve, and oval-lanceolate leaves, and simple racemus of flowers.*)

3. *RIVINIA paniculata*. Panicle-flowering Rivinia. (*Panicle-flowering, with the compound racemes of flowers opposite.*)

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They are mostly evergreen, effecting an agreeable variety among the stove exotics, and are finely adorned with numerous long bunches of flowers most times of the year, succeeded by bunches of berries appearing very ornamental; and are raised from seed assisted by a hot-bed; and by the same means make trial of cuttings and layers.

RONDELETIA (*Rondeletia*.) (*Pentandria monogynia*.)

Two woody shrub exotics of America and Asia; growing eight or ten feet high, with oblong leaves, placed alternate, and tubulous white and yellowish flowers at the ends of the branches, in long paniculated bunches, formed of monophyllous quinquefid cups, a tubular funnel-shaped corolla divided at the brim in five reflexed segments; five stamina, a roundish germen under the corolla, and one style, succeeded by a roundish bilocular capsule, with two or three angular seeds.

The species are,

1. RONDELETIA *americana*. American *Rondeletia* of Jamaica. (*Oblong-lanceolate close-fitting leaves, and dichotomous, or two-forked panicles of flowers.*)
2. RONDELETIA *asiatica*. Asiatic *Rondeletia* from Malabar. (*Oblong acute leaves, furnished with foot-stalks.*)
3. RONDELETIA *odorata*. Odorous or Sweet *Rondeletia*. (*Leaves sub-ovate obtuse, and footstalked.*)

All the species are evergreen, afford an agreeable variety at all seasons, and flower in autumn, and are raised by seeds from abroad, sowed in pots, and vegetated in a hot-bed, or bark bed in the stove.

S.

SACCHARUM. SUGAR CANE. (*Triandria digynia*.)

A genus eminent for affording two or three tall-growing arundinaceous perennials, whose stems furnish that sacchariferous juice of which sugar is made; natives of the East and West-Indies; having thick fibrated roots, sending up several thick, round, jointed, succulent stems, from eight or ten, to twelve or fifteen feet high, abounding with a white pithy saccharine juice; garnished with large oblong amplexicaul leaves, several feet long, and the stems terminated

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terminated by large panicles, and spikes of numerous small bivalve chaffy flowers, wrapped up in down, furnished each with three stamina, a subulate germen, two styles, and each floret succeeded in the germen by a narrow acuminate seed, invested by the two valves.

The species are,

1. *SACCHARUM officinarum*. Officinal, or Common Sugar Cane, or Sacchariferous Reed. (*Flowers growing in panicles, leaves flat.*)

2. *SACCHARUM spicatum*. Spiked Sugar Cane. (*Flowers growing in spikes, and waved leaves.*)

3. *SACCHARUM spontaneum*. Spontaneous Sugar-Cane. (*Flowers paniced, leaves convolute.*)

They are admitted in most of our capital stove collections for variety, but principally the first species, planted in pots of rich earth; and are propagated by off-set shoots from the bottom or root, and by slips of the side shoots, rising towards the bottom of the stem; as also by cuttings of the stalks; planting them in pots, and plunged in the bark-bed, and well supplied with water, they will readily grow.

In the West-Indies they are cultivated in vast quantities in fields, where they are usually propagated by cuttings of the stalks in lengths of a foot, or half a yard, placed wholly in the earth horizontally, three or four inches deep, in rows four or five feet asunder, or more, which soon shoot up into stalks fit to cut in six or eight months, when being carried to a mill, are squeezed between two heavy rollers to express the juice, which is then prepared by boiling, till formed of a due consistence to become Sugar; and from the skimmings of the different boilings and Melasses, the last drainings of the Sugar, and the whole fermented, is extracted that spirituous liquor called Rum; hence proceeds the great utility of this most valuable plant.

SAPINDUS. SOAP-BERRY TREE. (*Ocandria trigynia*)

A genus comprehending three tree and shrub species of the East and West-Indies, furnished with pinnated and trifoliate leaves, and small tetrapetalous white flowers, terminating the branches in spikes; having four-leaved, spreading, deciduous cups, four oval petals, eight stamina,

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mina, an oval three-lobed germen with three styles, succeeded by three conjoined globular saponaceous berries, containing the like number of roundish nuts.

The species are,

1. *SAPINDUS Saponaria* (*Saponaria*.) or Indian Soap-Berry Tree. (*Thornless stem, and winged leaves, terminated by an odd foliole.*)

2. *SAPINDUS sinosus*. Thorny Jamaica Sapindus. (*Thorny stem, and winged leaves, not terminated by an odd foliole.*)

3. *SAPINDUS trifolius*. Three-leaved Malabar Sapindus. (*Leaves composed of three folioles.*)

4. *SAPINDUS chinensis*. Chinese jagged-leaved Sapindus. (*Leaves winged, folioles jagged.*)

They are retained here among other tender exotics in stoves, where they afford an agreeable variety; and are propagated by seed procured from the West-Indies, &c. sowing them in pots, and placed in a hot-bed.

SENECIO. GROUNDSEL. (*Syngenesia, polygamia superflua.*)

Of this genus there is one tender herbaceous perennial of India, cultivated in some curious stove collections for variety; consists of a thick root, formed of fleshy tubers, crowned with large rough cut leaves, and a slender flower-stalk half a yard high, terminated by compound yellow flowers composed of many floscular florets, with five stamina and one style, succeeded by oval seeds, crowned with down. The species is,

SENECIO *Pseudo-China*. (*Pseudo-China*.) False China Root from Madagascar. (*Long naked flower stalks, and naked corolla.*)

It is propagated by off-sets of the root, planted in pots, and plunged into the bark-bed.

SIDA. INDIAN MALLOW. (*Monadelphia polyandria.*)

It furnishes for this division some tender herbaceous exotics of Africa and America; adorned with heart-shaped, roundish, and oblong leaves, and flosculous flowers, with a simple calyx angled; many united stamina in one body; a many-parted style, and numerous capsules, one-seeded in each cell.

The noted species are,

1. *SIDA cordifolia*. Heart-leaved Indian Mallow. (*Leaves heart-shaped, sub angular sawed willous.*)

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2. *SIDA Abutilon*. (*Abutilon*.) or Round-heart leaved Indian Mallow. (*Leaves roundish-heart-shape undivided, with peduncles shorter than the leaves, capsules many-celled, and hornlets, two-parted.*)

3. *SIDA rhombifolia* Rhombous-leaved Indian Mallow. (*Leaves lance-rhombous-shape sawed, axillas mostly two-thorned.*)

4. *SIDA periplocifolia*. Periploca-leaved Sida of America and Ceylon. (*Stem panicle flowering, leaves heart-spear-shape intire.*)

5. *SIDA americana*. American oblong-leaved Sida of Jamaica, &c. (*Leaves heart-oblong undivided, capsules many-celled, the length of the calyx.*)

6. *SIDA triquetra*. Three-sided American Sida. (*Branches three-sided, leaves heart-shape sawed, somewhat downy.*)

7. *SIDA capitata*. (*Malachra capitata*.) Headed seven-flowered Caribbean Sida, or Headed Malachra.—It, by late improvements in botany, being removed from this to the genus *Malachra*, but by mistake we omitted inserting it in that genus. (*Flowers in heads peduncled, three-leaved, seven-flowered.*)

These species of *Sida* claim admittance in stove collections, for variety and ornament; they will make a very agreeable diversity in their different foliage and flowers; plant them in pots of any good lightish garden earth, and may be propagated by seed, off-sets, cuttings, &c.

SIDEROXYLON. IRON WOOD. (*Pentandria monogynia*.)

It furnishes for the stove two shrubby evergreens, ornamented with oval firm smooth shining leaves, and wheel-shaped flowers; having five-parted cups, a monopetalous corolla divided in five or ten parts; five stamina, roundish germen and one style, succeeded by a roundish unilocular five-seeded berry.

The species are,

1. *SIDEROXYLON inerme*. Unarmed, or Thornless Æthiopian Iron Wood. (*Inermous or thornless stems, and large oval leaves.*)

2. *SIDEROXYLON spinosum*. Thorny Malabarian Iron Wood. (*Armed with thorns, and smaller oval persistent leaves.*)

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They are preserved here in our stoves as ornamental evergreens, and for variety; and are propagated by seeds from abroad, and by layers, by the assistance of the bark-bed, &c.

SOLANUM. NIGHTSHADE. (*Pentandria monogynia.*)

This genus furnishes for the stove some tender shrubby exotics from the hot parts of Africa and America, from three or four, to five or six feet high, some smooth, others armed with thorns; garnished with oval, heart-shaped, lanceolate, trilobated, and pinnatifid leaves, and small rotaceous white and blue flowers in clusters, and spikes at the sides and ends of the branches, having monophyllous, quinquefid, permanent cups, a monopetalous, wheel-shaped corolla, spreading and five-parted above; five stamina, with sub-coalescent anthera; a roundish germen, and one style; succeeded in the germen by a roundish bilocular fruit of the berry kind, some large, others small, red, and yellow coloured, furnished with many seeds.

The species for the stove are,

1. SOLANUM *guineense*. Guinea Nightshade. (*Shrubby stalk without thorns, ovate-intire leaves, and lateral thread-form peduncles of the flowers.*)
2. SOLANUM *verbascifolium*. Verbascum leaved American Nightshade. (*Shrubby stalk without thorns, ovate, downy, intire leaves, and compound umbels.*)
3. SOLANUM *tomentosum*. Woolly American Nightshade. (*Shrubby, downy, prickly stalks, the prickles awny; and heart-shaped, unarmed, somewhat-scalloped downy leaves, tenderly purple dusted.*)
4. SOLANUM *bahamense*. Bahama Nightshade. (*Shrubby, prickly stalk, spear-shaped, serpentine-edged, obtuse leaves, with reflexed margins, and single spikes of flowers.*)
5. SOLANUM *igneum*. Fiery-thorned American Nightshade. (*Shrubby, prickly stalk, with fire coloured thorns, lanceolate acuminate leaves, the base revolute on both sides, and simple clusters of flowers.*)
6. SOLANUM *trilobatum*. Three-lobed leaved Jamaica Nightshade. (*Shrubby prickly stalk, and wedge-shaped, almost three-lobed smooth leaves.*)
7. SOLANUM *indicum*. Indian Nightshade. (*Shrubby prickly stalk, with straight spines, and wedge shaped angulated, subvillous intire leaves.*)

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8. *SOLANUM sodomæum*. Sodom Nightshade, or Apple of Sodom. (*Shrubby prickly stalks; ob-oval, pinnatifid-sinuated prickly leaves, and prickly cups.*)

9. *SOLANUM bonariense*. Buenos-Ayres undershrubby Nightshade. (*Undershrubby, almost-thornless stalks, and wedge-shaped, sinuate-scalloped leaves.*)

10. *SOLANUM quercifolium*. Oak-leaved Peruvian Nightshade. (*Herbaceous, thornless, angular, flexuose stalks, pinnatifid leaves, and cymose clusters of flowers.*)

11. *SOLANUM sanctum*. Holy Egyptian Nightshade of Palestine. (*Stem shrubby, prickly, the prickles downy; leaves oblique-ovate, scalloped.*)

12. *SOLANUM ferox*. Ferocious Malabar Nightshade. (*Stem herbaceous, prickly; with hearted downy prickly leaves, hairy berries covered by the calyx.*)

Several of these species are also ranged in the greenhouse collection; but being all inhabitants of hot countries, if indulged with the protection of a stove in winter, they will generally be more prosperous; all the sorts flower annually in summer, and ripen plenty of berries in autumn and winter, of various sizes and colours, some like cherries, others larger and smaller, effecting a pretty variety.

They are all easily raised from seed sowed in the spring in pots of light earth, and plunged in a hot-bed; and when the seedlings are two or three inches high, prick them in separate pots, plunged also in the hot-bed or bark-bed, in the stove; also by cuttings, &c.

SOPHORA (*Sophora*.) (*Decandria monogynia*.)

It affords four shrubby exotics of Asia, America, and Africa, for the stove, growing four or five feet high; garnished with pinnated and simple leaves, and papilionaceous, or butterfly-shaped yellow flowers, produced in lateral spikes; having bell-shaped cups of five divisions, a quinquepetalous corolla, composed of an oblong, broad-reflexed standard, two oblong wings, a diphyllous keel, ten distinct stamina, cylindric germen, one style, and the germen becomes a very long pod, with roundish seeds.

The stove kinds are,

1. *SOPHORA tomentosa*. Tomentose Silvery Sophora of Ceylon. (*Pinnated woolly silvery leaves, of numerous roundish folicles.*)

2. *SOPHORA*

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2. *SOPHORA heptaphylla*. Seven-leaved Indian Sophora. (*Pinnated leaves of seven smooth folioles.*)

3. *SOPHORA biflora*. Two-flowered African Sophora. (*Ob-oval, somewhat downy simple leaves, and peduncles bearing two flowers.*)

4. *SOPHORA microphylla*. Small-leaved Otaheite Sophora. (*Pinnated leaves of many very minute, roundish, smooth pinnae, a quarter of an inch long.*)

They are elegant plants, deserving admittance in all curious collections; and are propagated by sowing the seeds in spring, in pots placed in a hot-bed; make trial also of cuttings and layers, by similar assistance.

SPATHELIA. (*Spathelia.*) (*Pentandria trigynia.*)

A genus consisting of one shrubby exotic from Jamaica, &c. with a simple stem, pinnated leaves, simple raceme of flowers, composed of a five-leaved calyx, five petals, five stamina, three styles, succeeded by trilocular capsules three-seeded, single in each cell.

The species is,

SPATHELIA simplex. Simple-stalked Jamaica Spathelia. (*Stem simple, frondose pinnated tufted leaves, flower racemes most simple, loose, terminal.*)

It may be raised from seed, layers, cuttings, &c. in pots plunged in a bark-bed.

SPONDIAS. BLACK AMERICAN PLUM. (*Decandria pentagynia.*)

Consists of two tree-like shrubs of India and America, growing from ten or twelve, to twenty feet high; adorned with winged or pinnated leaves of four, five, or six pairs of folioles, terminated by an odd one, and numerous small purple and yellow flowers along the sides of the branches, before the leaves come out; having five-parted deciduous cups, five oblong spreading petals, ten stamina, oval germen with five styles, succeeded by a plum shaped pulpy fruit, containing an oval five-celled nut.

The species are,

1. *SPONDIAS Mombin*. (*Mombin*) or Purple Indian Spondias. (*Common foot-stalks of the leaves compressed, and purple flowers and fruit.*)

2. *SPONDIAS Myrobalanus* (*Myrobalanus*) or Yellow American Spondias. (*Round foot-stalks; glossy shining folioles of the leaves, and yellow flowers and fruit.*)

They

They form an agreeable variety in the hot-house, &c. and are propagated by sowing the stones of the fruit, in pots plunged in the bark-bed, and by cuttings and layers of the young shoots, assisted the same way.

STAPELIA (*Stapelia*.) (*Pentandria digynia*.)

A genus composed of two low succulent, aphyllous perennials from the Cape of Good-Hope; growing with slender, succulent, spreading, and erect branches, singularly denticulated into spreading and erect protuberances; no leaves, but large, thick, starry, yellow, purple spotted flowers of a singular appearance, composed of acutely quinquefid cups, a large monopetalous plane corolla, cut into five acute segments, surrounding a five-pointed starry nectarium, five stamina, two oval germina, each crowned by an obtuse stigma; and the double germen becomes two cylindric pods, filled with compressed downy seeds.

The species are,

1. STAPELIA *variegata*. Variegated Lesser Stapelia, or Fritillaria Crassa Minor. (*Spreading denticulated protuberances of the branches, and flowers spotted with purple.*)

2. STAPELIA *hirsuta*. Hairy Greater Stapelia, or Fritillaria Crassa Major. (*Erect denticulated tubercles of the branches; and flowers striped with purple.*)

They deserve culture as plants of singularity, and for the beauty of their curious stellated flowers, great part of summer and autumn, keeping them in pots of light sandy earth; and are easily propagated by slips or cuttings of the branches in summer, previously laying the cuttings in the stove a few days to heal over the cut moist part at bottom, then planted in pots of light soil, and plunged in the bark-bed to strike them.

STERCULIA (*Sterculia*.) DIRT WOOD. (*Monoecia monadelphia*.)

Comprehends two shrubby exotics of India, remarkable for the foetid smell of the wood, whence the genus derives the name *Sterculia* (*Stercus*, *Dung*) said to resemble the smell of human excrements; garnished with digitated and oval intire leaves, and monoecious flowers with all the stamina united below into one body.

The species are,

1. STERCULIA *foetida*. Stinking Digitated Sterculia of Ceylon. (*Divided, digitated, or fingered leaves.*)

2. STER-

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2. *STERCULIA Balanghas* (*Balanghas*) or Malabar oval-leaved Sterculia. (*Ovate intire, ternate or three-follicled leaves, footstalked; and flowers disposed in panicles.*)

They are retained in some collections for their singularity, and to increase the variety; and are propagated by seed, layers, cuttings, &c. assisted by a hot-bed.

SWIETENIA. MAHOGANY TREE. (*Decandria monogynia.*)

A genus remarkable for furnishing that valuable species Mahogany; a tree of singular excellence for its wood, employed for innumerable domestic uses in household furniture, &c. a native of South-America, where it acquires a stupendous growth and vast bulk; adorned with pinnated leaves of six or eight pair of folioles, and loose bunches of monopetalous five-parted flowers, with quinquefid cups; ten stamina, roundish germen, crowned by a thick stigma, succeeded by an oval quinquevalvous five-celled pod, including a pentangular column, to which are affixed the seeds, placed imbricatim.

The species is,

SWIETENIA Mahagoni (*Mahagoni.*) American Mahogany Tree.

It is introduced here among our stove exotics for variety; and is propagated by seeds from the West-Indies, sowed in pots, and placed in a tanner's bark hot-bed; try also cuttings and layers of the small young shoots.

T.

TABERNÆMONTANA. (*Tabernæmontana.* (*Pentandria monogynia.*))

A genus of Indian shrubby exotics, garnished with ovate and oval leaves opposite and alternate, and salver-shaped flowers, having five stamina and one style; succeeded by two horizontal follicles, with seeds immersed in the pulp.

The species are,

1. *TABERNÆMONTANA citrifolia.* Citron-leaved Indian Tabernæmontana. (*Leaves opposite ovate, with flowers lateral, glomerate umbelled.*)

2. *TABER-*

2. *TABERNÆMONTANA laurifolia*. Laurus-leaved Jamaica Tabernæmontana. (*Leaves opposite oval obtusifol.*)

3. *TABERNÆMONTANA alternifolia*. Alternate-leaved Tabernæmontana of Malabar. (*A tree stem, leaves ovate alternate.*)

4. *TABERNÆMONTANA grandiflora*. Great-flowered Tabernæmontana. (*Stem two forked, leaves opposite,*)

These four species of *Tabernæmontana* deserve a place in our stove collections. where they will afford an agreeable variety all the year; plant them in pots of light mold, and may be increased by cuttings, slips, layers, off-sets, seeds, &c. assisting them in each method by plunging the pots of cuttings, &c. in the bark-bed.

TAMARINDUS. TAMARIND TREE. (*Triandria monogynia.*)

An elegant Tree of the East and West-Indies, growing fifty or sixty feet high, ornamented with pinnated leaves of many pairs of small oval foliola, not terminated by an odd one, and reddish flowers produced in loose bunches, consisting of four-leaved cups, three oval, plicated petals, three stamina, oblong germen, and rising style, succeeded by a long succulent unilocular pod, full of an acid pulp, surrounding three or more angular seeds; the pods, being the Tamarinds we receive from abroad, preserved in sugar, are excellent to quench thirst, allay heat, and of various uses in medicine.

The species is,

TAMARINDUS indica. Indian Tamarind Tree.

It is preserved here in stoves, where it forms an elegant variety in its fine pinnated leaves, and is easily raised from seed sowed in the spring in pots, and placed in a hot-bed or bark bed in the stove, &c.

THEOBROMA. CHOCOLATE NUT TREE. (*Polydelphia pentandria.*)

A genus containing three eminent tree kinds, inhabitants of the hot parts of America, China, &c. furnished with large oblong and heart-shaped leaves, and numerous yellowish flowers produced in lateral bunches, composed of three-leaved cups, five oval petals, and a bell-shaped, five-leaved nectarium; five stamina united in several bodies, an oval germen and single style, succeeded by a woody, oblong,

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oblong, or roundish quinquelocular fruit, containing many oval fleshy seeds, of which Chocolate is made.

The species are,

1. THEOBROMA *Cacao* (*Cacao*) or American Chocolate Nut Tree. (*Oblong entire leaves, placed opposite.*)

2. THEOBROMA *Guazuma* (*Guazuma*.) Jamaica Theobroma, or Bastard Cedar. (*Oblong, sawed leaves, placed alternate*.)

3. THEOBROMA *angusta*. Angustous seven-angled Theobroma, or Chinese Bastard Cedar. (*Hearted seven-angled leaves.*)

They are propagated by seeds from the West Indies, sowed in pots, and plunged into a bark hot-bed.

TINUS. TINUS, or Tree Volkameria. (*Enneandria monogynia.*)

This genus furnishes but one species, a berry-bearing tree exotic of the West-Indies, ornamented with oblongish-ovate leaves, and branchy spikes of flowers, having a five-parted calyx and corolla, a pitcher-shape nectarium included in the germen; nine stamina, one style, and a three-celled berry, seeds single in each cell.

The species is,

TINUS *occidentalis*. Occidental American Tinus of Jamaica. (*Leaves oblong-ovate alternate, smooth above, sub-villous and nervous below; spikes branchy terminal.*)

This is a desirable object for the hot-house collection; plant it in pots of any good rich earth; and it may be propagated by seeds, layers, cuttings, &c. in pots plunged in the bark-bed.

TOURNEFORTIA (*Tournefortia.*) (*Pentandria monogynia*.)

A genus of shrubby exotics, residents of the West-Indies, and other hot parts of America, consisting of one climber, and several of upright growth; garnished with oval and lanceolate leaves, and tubulous spreading white flowers produced in spikes and bunches; having five-parted permanent cups, a tubular funnel-shaped corolla, dividing above in five spreading segments, five stamina, a globular germen, one style, succeeded in the germen by a globose berry with four seeds.

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The species are,

1. *TOURNEFORTIA volubilis*. Volubilate-climbing Jamaica Tournefortia. (*Volubilate climbing stalks, and oval acuminate smooth leaves.*)
2. *TOURNEFORTIA fatidissima*. Most Stinking Mexican Tournefortia. (*Oval lanceolate hairy leaves, and branching peduncles, with pendulous spikes.*)
3. *TOURNEFORTIA serrata*. Sawed-leaved American Tournefortia. (*Ovate sawed leaves, with spinous-becoming petioles, and terminal recurved spikes.*)
4. *TOURNEFORTIA cymosa*. Cymose-spiked Jamaica Tournefortia. (*Ovate intire, naked leaves, and cymose spikes of flowers.*)
5. *TOURNEFORTIA hirsutissima*. Most-hairy - stalked American Tournefortia. (*Hairy stalks, ovate leaves foot-stalked, and branching terminal spikes.*)
6. *TOURNEFORTIA suffruticosa*. Undershrubby Jamaica Tournefortia. (*Undershrubby stalks, and sub-lanceolate hoary leaves.*)
7. *TOURNEFORTIA humilis*. Dwarf American Tournefortia. (*Spear-shaped sessile leaves, and simple recurved lateral spikes.*)

They are introduced in most of our capital stove collections, to increase the variety of tender exotics; appear in foliage mostly the year round, and flower in spring and summer, succeeded by succulent berries in autumn.

All the sorts are propagated by seed mostly from abroad, sowed as soon as possible in pots, and plunged into a bark-bed; likewise by layers and cuttings.

TRIUMFETTA (*Triumfetta*.) (*Dodecandria monogynia*.)

Consists of shrubbyish and other India exotics of upright growth; with roundish, and half-three-lobed leaves, and numerous small yellow flowers in long terminal spikes; having five-leaved cups, five linear concave-retroflexed petals, twelve to nineteen stamina, a roundish germen, and one style, succeeded in the germen by a globular, prickly, bur-like, quadrilocular capsule, with two seeds in each loculi.

The species are,

1. **TRIUMFETTA** *Lappula* (*Lappula*) or Burry-capsuled Jamaica Triumfetta. (*Leaves emarginated at the base; flowers without a calyx.*)
2. **TRI-**

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2. TRIUMFETTA *semitriloba*. Half-three-lobed Triumfetta. (*Leaves-half-three-lobed, flowers complete.*)

3. TRIUMFETTA *Bartramia* (*Bartramia*) or Intire-leaved India Triumfetta. (*Leaves intire at the base, and divided.*)

They are propagated by seeds, by the aid of a hot-bed in the spring, and by cuttings, off-sets, &c.

TULBAGIA. (*Tulbagia*.) (*Hexandria monogynia*.)

A genus furnishing two tender herbaceous exotics, garnished with thread-form and lance-linear leaves, and funnel-form liliaceous flowers, having a six-parted corolla, a three-leaved nectarium, six stamina, one style, succeeded by a capsular seed-vessel.

The species are,

1. TULBAGIA *aliacea*. Aliaceous or Garlick Tulbagia. (*Leaves somewhat thread-form.*)

2. TULBAGIA *cepean*. Cepaceous or Onion Tulbagia. (*Leaves lance shape-linear.*)

These two species will effect a desirable variety in the hot-house, being planted in pots of lightish mold, and placed any where in that department, and may be propagated by off-sets, slips, seed, &c.

TURNERA (*Turnera*.) (*Pentandria trigynia*.)

It furnishes for the stove, one ligneous, ornamental flowering plant from the West-Indies; growing with shrubby-like ligneous, branchy stalks six or seven feet high, oval spear-shaped rough leaves, and at the foot-stalks thereof large yellow flowers, consisting of funnel-shaped five-lobed cups, five heart-shaped, spreading petals, five stamina, a conical germen, and three styles with multiple stigmas; succeeded in the germen by an oval trivalvular unilocular capsule, having many seeds.

The species is,

TURNERA *ulmifolia*. Elm-leaved Jamaica Turnera. (*Leaves having two glands at the base, and flowers sitting close to the foot-stalks of the leaves.*)

Varieties.

(*angustifolia*) Narrow Elm-leaved Turnera.

Both the varieties flower very ornamentally in constant succession from June till winter, and often great part of the year, succeeded by ripe seeds, by which, and by cuttings, the plants may be raised, assisted by a hot-bed in the spring.

UREN

U.

URENA (*Urena*.) INDIAN MALLOW. (*Monadelphica polyandria*.)

Comprises three ligneous malvaceous perennials of China, India, and America; two being upright growers, two or three feet high; the other a procumbent plant, adorned with angular, palmated, and halbert-cordate leaves, and mallow-shaped, reddish flowers sitting close to the axillar of the stalk singly; having double cups, the outer quinque-dentate, and the inner deeply five-parted; five oblong obtuse petals, many monadelphous columnar stamina, a roundish pentangular germen, with a single style; succeeded in the germen by a pentagonal, quinquelocular capsule, having five angular seeds.

The species are,

1. *URENA lobata*. Lobated China Urena. (*Angular-lobated leaves*.)
2. *URENA sinuata*. Sinuated Indian Urena. (*Sinu-ated-palmated leaves, the sinuses obtuse*.)
3. *URENA procumbens*. Procumbent China Urena. (*Procumbent stalks, halberted-nearly heart-shaped undivided serrated leaves*.)

They furnish a good variety among the stove exotics, and flower two or three months in summer and autumn, often succeeded by ripe seeds, by which you may raise the plants in the spring, by the assistance of a hot-bed.

URTICA (*Nettle*.) CHINA NETTLE. (*Monoecia tetrandria*.)

In this genus is one herbaceous perennial from China; sometimes retained here both as a hot-house and greenhouse exotic, but will succeed in the open ground in a warm situation, [See the hardy herbaceous plants] is of upright growth, with stalks three or four feet high; garnished with orbicular, pointed leaves, and male and female flowers separated, disposed in catkins; having in the males a four-leaved cup, which in the females is composed of two valves; no petals, but a pitcher-shaped nectarium in the males; four stamina, an oval germen,

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no style, but a hairy stygma; and the germen becomes an oval seed, resting in the calix.

The species is,

URTICA nivea. Snowy or White-leaved China Nettle. (*Suborbicular alternate leaves, acute at both ends and hoary, and very white underneath.*)

It is propagated by slipping the roots in the spring.

V.

VERBENA. VERVAIN. (*Diandria monogynia*.)

For the hot-house collection, this genus affords some tender herbaceous exotics, natives of the Indies producing upright stalks, garnished with ovate, spatulate, and hearted leaves, and long spikes of diandrous and tetrandrous flowers, with the calyx having the highest single denticle topped, a funnel-form curved corolla, two stamina (sometimes four) and one style, succeeded by two or four seeds naked.

The species are,

1. *VERBENA indica*. Indian smooth-stalked Vervain of Ceylon. (*Smooth stalks, leaves lance-ovate, obliquely dentated, and longest fleshy naked spikes, flowers having two stamina.*)

2. *VERBENA jamaicensis*. Jamaica hairy-stalked Vervain. (*Hairy stalk, leaves spatulate, ovate sawed, long fleshy naked spikes of flowers, with two stamina.*)

3. *VERBENA mexicana*. Mexican loose-spiked Vervain. (*Four-angled stalk, leaves hearted-oblong, loose spikes, with the calyxes of the fruit reflexed, roundish twin-growing bisperous flowers, two stamina.*)

They should be planted in middle size pots of moderately light mold, placed in the hot house, and when they may be propagated by off-sets, slips, cutting seeds, &c.

VERBESINA (*Verbesina*.) **INDIAN HEMP AGROMONY.** (*Syngenesia polygamia superflua*.)

Comprises some herbaceous and ligneous plants of America, &c. rising with upright stalks from two to five or six feet high; furnished with obtuse-decurrent, ovate

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and oval-lanceolate leaves, and compound orange-coloured and yellow flowers at the wings, and top of the stalks; having a concave general cup, composed of a double series of leaves, including many funnel-shaped hermaphrodite florets in the disk, and flat female ones compose the radius; five stamina, a single germen and style, succeeding to angular seeds.

The chief species are,

1. *VERBESINA alata*. Winged-stalked, Orange-coloured Verbesina of Curassao. (*Obtuse-ovate, waved decurrent alternate leaves.*)

2. *VERBESINA fruticosa*. Shrubby American Verbesina. (*Shrubby stalk, and oval serrated leaves, having foot-stalks.*)

3. *VERBESINA chinensis*. China Verbesina. (*Lanceolate-ovate serrated, alternate leaves, having foot-stalks.*)

They deserve admittance in our collections for variety, and as flowery plants; the first sort is the most noted, producing many orange-coloured flowers from July till the end of autumn, and are propagated by seeds in a hot-bed, in the spring, and by slips, off-sets, &c.

VINCA. PERIWINKLE. (*Pentandria monogynia.*)

It furnishes for the stove a beautiful evergreen, ornamental flowering undershrub, from Madagascar; growing with smooth stems two or three feet high; oblong-oval, firm, smooth leaves, and large rose-like crimson and pale red flowers in pairs, at the sides of the branches; having acutely-five-parted persistent cups, a monopetalous salver-shaped corolla, with a broad spreading brim, cut in five obtuse segments; five stamina, two roundish germina, terminating in a single style, succeeded by two cylindric follicula, containing oblong seeds.

The species is,

VINCA rosea. Rose-flowered Periwinkle from Madagascar. (*Undershrubby erect stalks, oblongish petiolated leaves, the petioles bi-dented at the base, and close-fitting. flowers produced singly, rose or bluish-coloured white-spotted flowered, and in pairs.*)

This elegant evergreen, and most beautiful flowering plant, claims admittance in all stove collections, where it will flower exceedingly ornamental from the spring till winter; the flowers large and conspicuous, furnishing ripe

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seeds in autumn, by which the plant may be propagated; also by cuttings and layers; also by the assistance of a hot-bed, or in the bark-bed in the stove.

VITIS. VINE. (*Pentandria monogynia.*)

It comprehends two tender species from India, growing with woody slender stems and branches, furnished with heart shaped and trifoliate leaves, attended by climbing tendrils, and numerous small flowers in clusters; having small quinquedentate cups, five small petals, five stamina, oval germen (without style) crowned by a capitated stigma; and each germen becomes a roundish unilocular berry, with hard round seeds.

The species are,

1. *VITIS indica*. Indian villose-leaved Vine. (*Heart-shaped indented leaves, villous-hairy underneath, and racemous bearing tendrils.*)

2. *VITIS trifoliata*. Trifoliate, or Three-leaved Indian Vine. (*Trifoliate leaves, with roundish serrated folioles.*)

They are preserved in large stove collections for curiosity and variety, and are propagated by seed, by layers and cuttings, vegetated in a hot bed, or in the bark bed in the stove.

VOLKAMERIA (*Volkameria.*) (*Didynamia angiospermia.*)

Consists of two shrubby-like perennials, furnished with moderate, oblongish, and oval opposite leaves, and monopetalous flowers, composed of an irregular corolla with two lips; two long and two short stamina, and one style, succeeded by a bilocular capsule, with many seeds.

The species are,

1. *VOLKAMERIA aculeata*. Prickly Jamaica Volkameria. (*Oblong-oval leaves, with spines at the rudiments of the foot stalks.*)

2. *VOLKAMERIA inermis*. Unarmed or Smooth Indian Volkameria. (*Without spines on the branches, and ovalish leaves.*)

Propagate them by seeds and cuttings, by the assistance of a hot-bed in the spring.

W.

WACKENDORFIA. (*Wackendorfia.*) (*Triandria monogynia.*)

A genus of African herbaceous perennials, with spear-shape and sword-form leaves and flower-stalks, simple and many-spiked flowers without calyx, six petal-like expanding, three stamina, one style, succeeded by a trilocular seed-capsule. — See also the Green-house division.

The species are,

1. **WACKENDORFIA** *thyrsiflora*. Thyrsé-flowering Cape Wackendorfia. (*Flower-stalk simple, leaves spear shape, five-nerved channelled, and flowers collected in a thyrsé.*)

2. **WACKENDORFIA** *paniculata*. Panicle-flowering Cape Wackendorfia. (*Flower-stalk many-spiked, leaves sword-form, three nerved, flowers produced in panicles.*)

3. **WACKENDORFIA** *umbellata*. Umbellate-flowering Wackendorfia. (*Flower umbels two parted racemous.*)

These species are also retained as green house plants, but are commonly more prosperous in a stove in winter; plant them in pots of good garden earth; and they may be raised and encreased by seed, off-sets, &c.

WINTERANIA. (*Winterania*) or WINTER'S BARK. (*Dodecandria monogynia.*)

One aromatic tree of South-America constitutes this genus, growing fifteen or twenty feet high, branching all around from the bottom, garnished with oblong-oval, obtuse, light green leaves, and red flowers, in terminal umbellate clusters; having three-leaved cups, five oblong petals, inclosing a conical pitcher-shaped nectarium, no stamina, but twelve or sixteen, to nineteen antheræ, an oval germen, single style, crowned by three stigmas; and the germen becomes a trilocular berry, with two heart-shaped seeds.

The species is,

WINTERANIA *Canella* (*Canella.*) American Winterania.

It is retained in most of our capital stove collections, and is propagated by seed from abroad, sowed in pots,

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and plunged in the bark-bed, &c. also sometimes by layers, and cuttings of the young wood.

X.

XYLOPHYLLA. (*Xylophylla*) or LOVE-FLOWER.
(*Pentandria trigynia*.)

Consists of two exotics of the hot parts of America, Asia, &c. distinguished by four-cornered and round branches in the different species, linear and spear shape leaves, and apetalous flowers with five-parted cups, no petals, five stamina, and three styles, with torn stigmas, and three-celled capsules, seeds double.

The species are,

1. *Xylophylla longifolia*. Long-bearded *Xylophylla*.
(*Branches four-angled, leaves linear.*)

2. *Xylophylla longifolia*. Broad-leaved *Xylophylla*.
(*Branches round-columnar, leaves spear-shape.*)

These species, natives of hot countries, are retained here in our stove collections, as plants of curiosity and variety; plant them separately in pots of lightish rich mold in the hot-house; and may be propagated by seeds, slips, cuttings, off-sets, &c.

Z.

ZAMIA. DWARF PENNATED PALM. (*Palme pinnatifolia*.)

A low species of Palm from the West-Indies, growing with a robust stem, only two or three feet high, ornamented with pinnated leaves of many pairs of oblong folioles, and male and female flowers on separate plants, produced on a club shaped spadix, having each floret three petals, proper stamina, germen and style, succeeded by many red seeds.

The species is,

Zamia pumila. Dwarf American *Zamia*. (*Leaves thick, short, rigid or stiff, slightly sawed.*)

A N

A P P E N D I X

T O T H E

HOT-HOUSE, or STOVE EXOTICS.

STOVE, or Hot-house plants, consisting of trees, shrubs, herbaceous and succulent exotics, being all natives originally of the hot parts of America, Asia, and Africa, require in this country to be continued constantly in a hot-house, winter and summer; though the greater part of these are retained more for variety, curiosity, or observation, than utility, one species excepted, namely, the *Bromelia Ananas*, which produces that admired fruit the Pine-Apple, and for the sole culture of which many capital hot-houses are principally erected, where there is room without incommoding the Pines. Other curious stove exotics may be admitted, as the same degree of heat which will be suitable to the *Ananas*, will be eligible for the culture of all others ranged in the hot-house division.

In the collection of hot-house plants, several are inserted which appear also in the green-house division; which, though they may succeed tolerably in the green-house, yet, being such as are very tender by being indulged with a hot-house in winter, are thereby not liable to be pinched by cold as in a green-house, and will probably assume a more prosperous growth. If of the flowering tribe, they will flower in greater perfection; particularly such as the *African Aloes*, *Creeping Cereus*, several of the *Amaryllis*, &c.

All plants designed for the hot-house must be planted and constantly retained in pots; some plunged in the bark-bed, others placed upon shelves, tops of the flues, &c. according to their nature of growth.

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Hot.

Hot-houses or stoves are constructed both for fire heat only, and for fire heat and bark-bed heat together, to suit plants of different temperatures.

A fire heat stove, worked by fire only, without assistance of a bark-bed, is commonly called a dry stove, having only flues for fire heat, no pit for a bark-bed, and designed principally for several kinds of less tender succulent exotics; and some others which, being natives of dry situations, are generally more prosperous in a dry than moist heat, or that only require moderate artificial heat principally in winter, such as the Torch-Thistles, Creeping Cereus, India Figs, some of the *Cacalia's*, *Crassulas*, *Cotyledons*, *Amaryllis*, *Aletris*, *Albuca*, *Bubon-Galbanum*, *Antholyza*, *Hemanthus*, *Capparis Spinosa*, *Gardenia*, *Heliotropium Peruvianum*, *Commelina*, *Crinum-Africanum*, *Solanum-Guineense*, *Solanum Sodomum*, *Oxalis*, *Ixia*, and some others of a less tender kind, which require heat all the year, such as the Pine-Apple, Melon, Thistle, Coffee-Tree, Amomum, &c. However, in a common Pine-Apple stove, for fire and bark-bed heat together, almost all sorts of the tender exotics may be cultivated successfully.

A bark-stove or hot-house, constructed both with an internal pit in which to make a bark hot-bed all the year, and with flues for fire heat also in winter, is intended for all the tenderer exotics, such as the Pine-Apple, and others of that quality, or all those commonly denominated hot-house or stove plants, as arranged in the hot-house division, both of the tree and shrub kinds, herbaceous and succulent in that arrangement. Bark-stoves are often erected for the culture of the Pine-Apple, which will not succeed to perfection, unless kept in a bark-bed, with a regular moist heat immediately about the roots, such as is peculiar to bark-beds, requiring also the aid of fires in winter, that the general internal air may be kept always to a certain degree of heat nearly equal to that of the hot parts of America, &c. of which the plants are natives; so that in a common Pine-Apple stove you may have any of the tender exotics, allotting the bark-bed principally for the Pines, placing the rest upon shelves, and tops of flues, &c.

Indeed, the same general culture will answer for the whole, excepting that the Pines require some operations peculiar

HOT-HOUSE, or STOVE EXOTICS. 369

peculiar to that species, which is fully explained under its proper article, *Bromelia Ananas*. Where there are large collections, distinct stoves are sometimes allotted for the Pines, by which they may be commodiously managed, and fruited in better perfection than when crouded with other plants.

Besides the utility of a hot-house or stove for the culture of tender exotics, it is of great service in producing hardy plants to early perfection, both of kitchen garden esculents, flowers and fruit; such as early Kidney-Beans, Cucumbers, and Strawberries; being sowed and planted in pots or boxes, and placed in the hot-house about January or February, &c. with others afterwards in succession; as likewise pots or boxes of small Sallading, Mint, Peas, &c. for early production; also pots of any desirable small flowering plants, such as Pinks, Dwarf Tulips, Hyacinths, Jonquils, Anemones, Polyanthos-Narcissus, Roses, Syringus, Hypericum Frutex, Persian Lilac, and other ornamental flowering kinds of moderate growth. Also Vines planted on the outside of the hot-houses, the stems of each admitted through a small hole, and the branches trained up within side under the top glasses to the rafters, will produce ripe grapes in great perfection, two or three months before their natural season in the open air. Pots of bearing Vines removed into the hot-house, occasionally in December or January, will also furnish early Grapes. A hot-house is likewise of great utility in general gardening, both for vegetating many sorts of foreign seeds in the bark-bed, that will scarcely grow in natural earth; and for striking cuttings and layers of various trees and shrubs more expeditiously and effectually, not only those of the stove exotics, but many of the green-house kinds, as likewise of the more curious hardy tree and shrub tribe, which root reluctantly in the natural ground, but may be much forwarded by being planted in pots, and plunged in the bark-bed.

Of the construction of a hot-house, most builders are now well acquainted with the particulars; its dimensions may be from twenty or thirty, to fifty feet long, ranging lengthways east and west, and erect with a glass work front, upright and sloping top full to the south sun, and in width, from ten to twelve, or fifteen feet; ten or twelve

twelve high in the back wall, six feet in front, of which eighteen inches or two feet being a dwarf wall, and on which is to be erected the upright frame-work for the glass sashes, four or five feet high, both ends being the same, with upright glass-work, corresponding in height with the back and front, and with sloping sashes at top, in two tiers; all the glass sashes made to slide over one another.

Internally have flues of brick-work carried along the front wall and both ends at bottom, in one range, continued to the back wall, where the flues may be in three or more returns over one another, the uppermost terminating in an upright vent or chimney behind at one end; or in both, if the house be of considerable length, and have two fire-places; observing, that for a hot-house not more than fifty feet, one fire-place may be sufficient; but if of greater length, two fire-places are eligible, with each its separate range of flues, each range occupying its allotted half of the department, and terminating in a separate chimney at both ends behind; having all the brick-work of the flues well secured by seams or joints, that no smoak from the heat can penetrate into the house.

And in the internal bottom or middle space of the building between the back and front must be the pit, in which to make the bark hot-bed, and for which the pit must be capacious, from six to eight or ten feet wide, by nearly the length of the house, only allowing a two foot space at each end and sides, for an alley or walk round the pit, which should be three feet deep, formed by a surrounding thin brick wall, raised two feet above the level of the floor.

Be careful to have all the wood-work well painted white in oil, and the glass-work well laid in putty imbrication, or the ends of the panes lopped half an inch, or an inch, to discharge the wet from one to the other, having no cross bars of wood-work, and the whole properly brushed over with cement, if necessary, to render them every way water tight, for this is of much importance.

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